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Johnson-Gierhart Program Predictions of Excess Propagation Loss
for Super-High Frequency Air-to-Ground Paths
Volume 2: Appendices

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By

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Program Manager
CDSM Program
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Air Force Materiel Command
United States Air Force
Hanscom Air Force Base, Massachusetts



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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER



ROBERT E. WILSON, Major, USAF
Program Manager, CDSM Program

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13. ABSTRACT (Maximum 200 words) The Johnson-Gierhart tropospheric propagation program of the Institute for Telecommunications Sciences is used to obtain predictions of excess propagation loss over that of free space for super-high frequency (SHF) air-to-ground paths within or on the radio horizon. The principal loss (gain) mechanisms considered are atmospheric absorption and refraction, surface multipath interference, smooth spherical Earth diffraction, and single knife-edge diffraction caused by terrain roughness and/or a site-specified obstacle. The program uses a semi-empirical database to statistically weigh the losses from these mechanisms. The excess propagation loss increases with increasing range and can exceed 3 decibels at distances as close as halfway to the radio horizon.				
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EXECUTIVE SUMMARY

BACKGROUND

Free-space propagation is often assumed in the design of super-high frequency air-to-ground communication and radar systems with operating ranges within or on the radiohorizon. This report demonstrates the inadequacy of this simplistic approach. Real-world propagation losses, quantified with the aid of an established propagation model, are presented as a function of altitude and range.

PURPOSE

A detailed discussion of the Johnson-Gierhart propagation program and its application to the estimation of propagation loss is presented. Various aircraft altitude and transmission ranges are compared. Environmental factors considered are climate, terrain roughness, and site-specified horizon limiting obstacles.

CONCLUSIONS

Free-space modeling of transmission loss of air-to-ground paths provides an adequate approximation for the combination of sufficiently short paths with sufficiently high altitudes of the air platform. For paths exceeding 75 nautical miles with air platforms below 20,000 feet, propagation losses in excess of free space cannot be ignored without jeopardizing the system design. The propagation loss distribution is shown to be log-normal for most of the scenarios of interest. Log-normally distributed propagation loss yields probabilities of detection that can be appreciably less than those predicted for signals with free-space propagation loss.

IMPLICATIONS

Statistical/semi-empirical propagation models, though not rigorously proven, remain useful tools with which to estimate performance because they are derived from a substantial database obtained from dedicated experiments over a period of years. The theory of probability of detection with log-normal statistics is maturing. The application of this theory to the design of long-range electronic systems should be the topic of a follow-on study.

ACKNOWLEDGMENTS

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The investigation of excess propagation loss for the air-to-ground paths of this paper was suggested by James Lemon. Hilda Chow performed the initial Johnson-Gierhart computer program runs that showed the potentially large excess propagation loss over free space increasing as a function of range. Dima Seliverstov and Louis Gnerre performed additional runs for the variety of parameters analyzed. Nicholas Senio provided technical assistance and insight regarding atmospheric losses. Raul Blanche and Major Robert Wilson provided invaluable support in pursuing this investigation. Sandra Kurniel and Donna Silva typed the document, and Angeline Theodore provided editorial assistance.

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APPENDIX A

PROBABILITY $P[X \geq 0]$ FOR A NORMALLY-DISTRIBUTED RANDOM VARIABLE X

Let X be a normally-distributed random variable with an expected value $\langle X \rangle = m_x$, standard deviation σ_x , and probability density function $f_x(x)$ given by

$$f_x(x) = \frac{1}{\sqrt{2\pi}} \frac{1}{\sigma_x} \exp\left[-\frac{(x - m_x)^2}{2\sigma_x^2}\right] \quad (\text{A.1})$$

which is plotted in figure A-1. The probability $P[X \geq 0]$ is the shaded area in figure A-1 and is given by

$$P[X \geq 0] = F_x(\infty) - F_x(0) = 1 - F_x(0) \quad (\text{A.2})$$

$$= 1 - \frac{1}{\sqrt{2\pi}} \frac{1}{\sigma_x} \int_{-\infty}^0 \exp\left[-\frac{(x - m_x)^2}{2\sigma_x^2}\right] dx$$

where

$$\begin{aligned} F_x(x) &= \int_{-\infty}^x f_x(t) dt \\ &= \text{cumulative distribution function of the random variable } X \end{aligned}$$

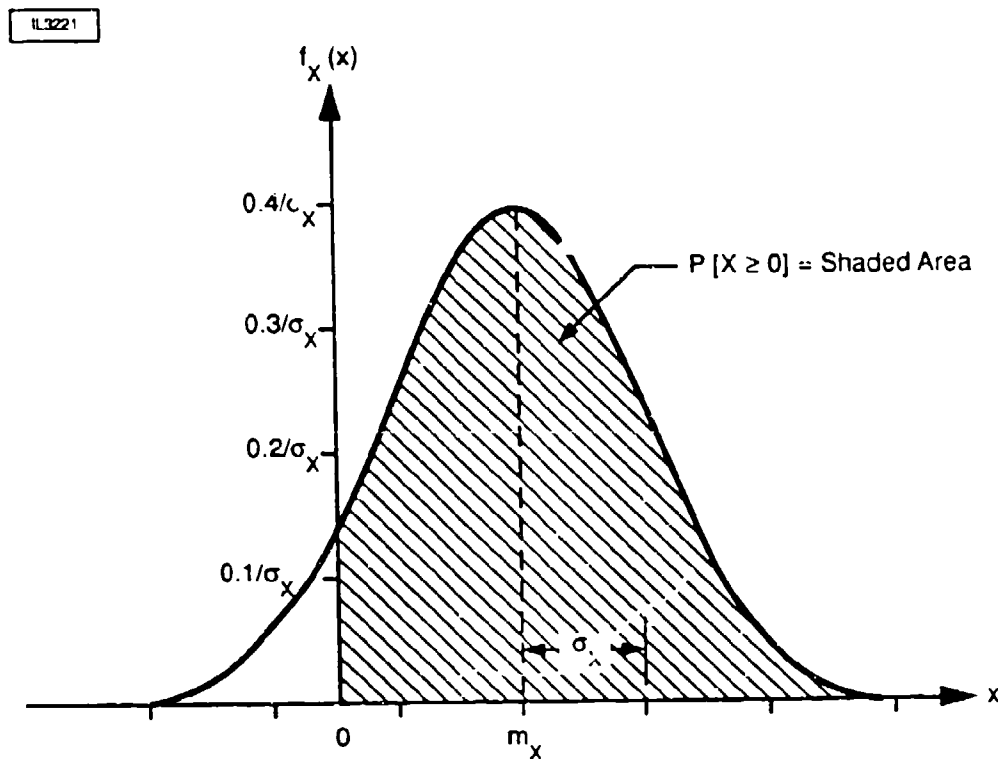


Figure A-1. Normally Distributed Probability Density Function with Mean m_X and Standard Deviation σ_X

It should be noted from figure A-1 that

$$P[X \geq 0] = \begin{cases} \frac{1}{2}, m_x = 0 \\ \frac{1}{2} \leq P[X \geq 0] \leq 1, m_x \geq 0 \\ 0 \leq P[X \geq 0] \leq \frac{1}{2}, m_x \leq 0 \end{cases} \quad (\text{A.3})$$

Defining the zero-mean, normally-distributed random variable

$$Z = \frac{X - m_x}{\sigma_x} \quad (\text{A.4})$$

and substituting into equation A.2

$$\begin{aligned} P[X \geq 0] &= 1 - \left(1/\sqrt{2\pi}\right) \int_{-\infty}^{-m_x/\sigma_x} \exp(-z^2/2) dz \\ &= 1 - F_z(-m_x/\sigma_x) = 1 - [1 - F_z(m_x/\sigma_x)] \\ &= F_z(m_x/\sigma_x) = \left(1/\sqrt{2\pi}\right) \int_{-\infty}^{m_x/\sigma_x} \exp(-z^2/2) dz \end{aligned} \quad (\text{A.5})$$

The cumulative distribution function $F_z(m_x/\sigma_x)$ of the normally-distributed random variable Z with quantile $z = m_x/\sigma_x$ is a straight line when plotted on normal probability paper.

An alternative expression for $P[X \geq 0]$ may be obtained by substituting $t = z/\sqrt{2}$ into equation A.5 and by noting that $F_z(0) = \frac{1}{2}$. Accordingly,

$$\begin{aligned} P[X \geq 0] &= \frac{1}{2} + \frac{1}{\sqrt{\pi}} \int_0^{m_x/\sqrt{2}\sigma_x} \exp(-t^2) dt \\ &= \frac{1}{2} [1 + \operatorname{erf}(m_x/\sqrt{2}\sigma_x)] \end{aligned} \quad (\text{A.6})$$

where

$$\operatorname{erf}(s) \equiv (2/\sqrt{\pi}) \int_0^s \exp(-t^2) dt = \text{error function of } s \text{ (reference 32 of volume 1)}$$

APPENDIX B

PROBABILITY $P[X \geq 0]$ FOR A TWO-PIECEWISE NORMALLY-DISTRIBUTED RANDOM VARIABLE X

Let X be a two-piecewise normally-distributed random variable with a breakpoint at the value x_0 and a probability density function $f_X(x)$ (see figure B-1) given by

$$f_X(x) = \begin{cases} (1/A)f_{X_1}(x), & x \leq x_0 \\ (1/A)f_{X_2}(x), & x > x_0 \end{cases}, f_{X_1}(0) \geq f_{X_2}(0), \quad -\infty \leq x \leq \infty \quad (\text{B.1})$$

where

$$f_{X_1}(x) = \frac{1}{\sqrt{2\pi}} \frac{1}{\sigma_{X_1}} \exp\left[-\frac{(x - m_{X_1})^2}{2\sigma_{X_1}^2}\right], \quad -\infty \leq x \leq \infty$$

$$f_{X_2}(x) = \frac{1}{\sqrt{2\pi}} \frac{1}{\sigma_{X_2}} \exp\left[-\frac{(x - m_{X_2})^2}{2\sigma_{X_2}^2}\right], \quad -\infty \leq x \leq \infty$$

$$A = 1 + F_{X_1}(x_0) - F_{X_2}(x_0) = F_{X_1}(x_0) + F_{X_2}(-x_0) = \text{normalizing constant so that } F_X(\infty) = 1.$$

$$F_{X_1}(x) = \int_{-\infty}^x f_{X_1}(t) dt = \text{cumulative distribution function of the random variable } X_1.$$

$$F_{X_2}(x) = \int_{-\infty}^x f_{X_2}(t) dt = \text{cumulative distribution function of the random variable } X_2.$$

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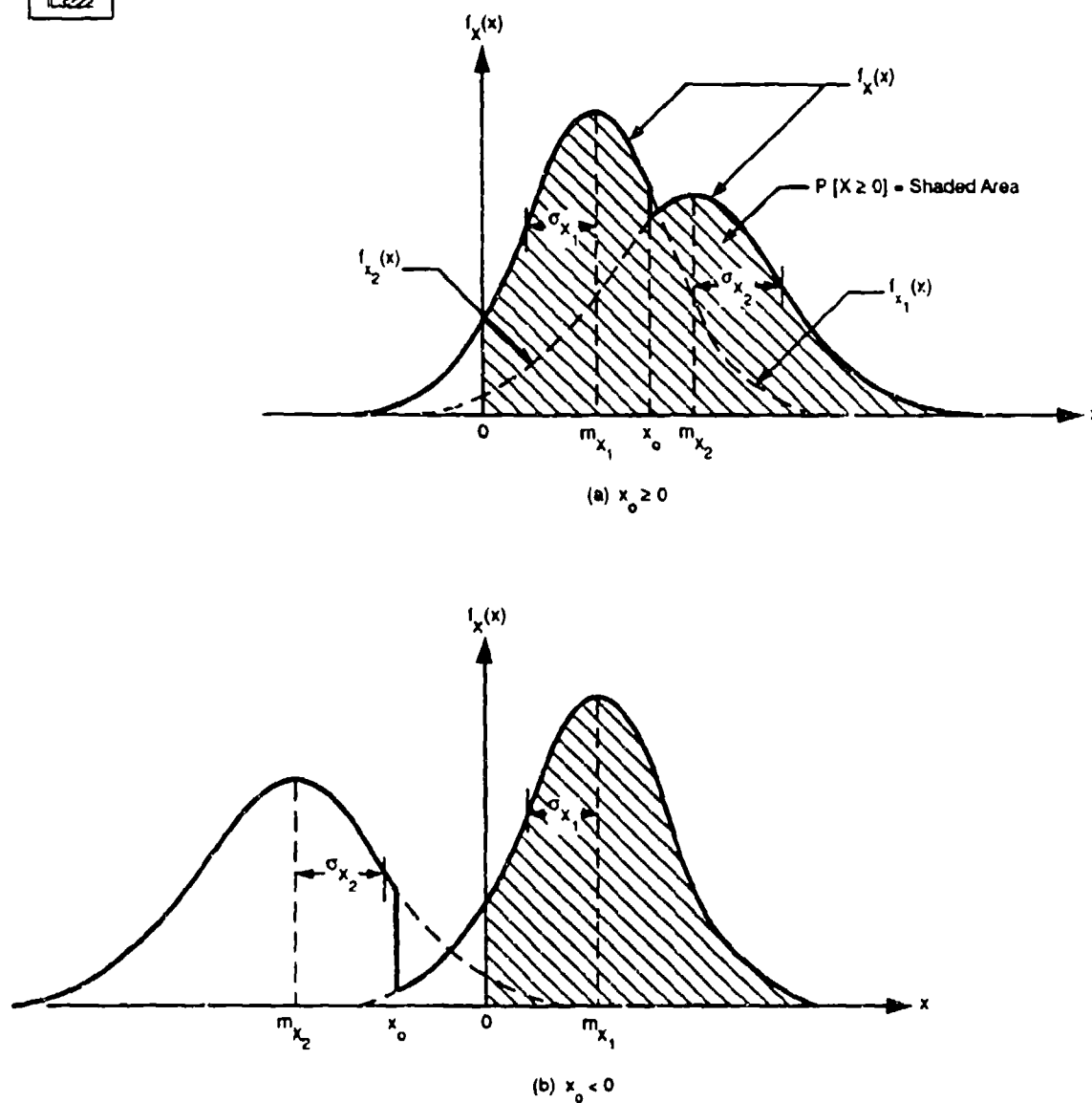


Figure B-1. Two-Piece Normal Probability Density Function of the Random Variable X with Breakpoint at the Value x_0

$F_X(x) = \int_{-\infty}^x f_X(t)dt =$ cumulative distribution function of the random variable X .

$m_{X_1}, m_{X_2} =$ means (expected values) of $f_{X_1}(x)$ and $f_{X_2}(x)$, respectively.

$\sigma_{X_1}, \sigma_{X_2} =$ standard deviations of $f_{X_1}(x)$ and $f_{X_2}(x)$, respectively.

The probability $P[X \geq 0]$ is the shaded area in figure A-1 and is given by

$$\begin{aligned} P[X \geq 0] &= F_X(\infty) - F_X(0) = 1 - F_X(0) \\ &= \begin{cases} 1 - (1/A)F_{X_1}(0), & x_0 \geq 0 \\ 1 - (1/A)[F_{X_1}(0) + F_{X_2}(x_0) - F_{X_1}(x_0)], & x_0 < 0 \end{cases} \end{aligned} \quad (B.2)$$

where A , $F_{X_1}(x)$, and $F_{X_2}(x)$ are defined in equation B.1.

Consider now the normally-distributed random variables $Z_{i=1,2}$ of zero-mean and unit variance defined by

$$Z_i = (X_i - m_{X_i})/\sigma_{X_i}; \quad i = 1, 2 \quad (B.3)$$

with values (quantiles) $z_{i=1,2}$ given by

$$z_i = (x - m_{X_i})/\sigma_{X_i}; \quad i = 1, 2 \quad (B.4)$$

Substituting equations B.3 and B.4 into equation B.1,

$$f_{X_i}(x) = (1/\sqrt{2\pi}) \int_{-\infty}^{z_i} \exp(-z_i^2/2) dz_i = f_{Z_i}(z_i), \quad i = 1, 2 \quad (B.5)$$

$$F_{X_i}(x) = \int_{-\infty}^{z_i} f_{Z_i} dt = F_{Z_i}(z_i), \quad i = 1, 2 \quad (B.6)$$

Substituting equation (B.6) into equation (B.2),

$$P[X \geq 0] = 1 - (1/A) F_{Z_1}(-m_{X_1}/\sigma_{X_1}), \quad x_o \geq 0 \quad (B.7)$$

$$P[X \geq 0] = 1 - \frac{1}{A} \left\{ F_{Z_1}\left(-\frac{m_{X_1}}{\sigma_{X_1}}\right) + F_{Z_2}\left(\frac{x_o - m_{X_2}}{\sigma_{X_2}}\right) - F_{Z_1}\left(\frac{x_o - m_{X_1}}{\sigma_{X_1}}\right) \right\}, \quad x_o < 0 \quad (B.8)$$

where

$$A = F_{Z_1}[(x_o - m_{X_1})/\sigma_{X_1}] + F_{Z_2}[-(x_o - m_{X_2})/\sigma_{X_2}]$$

The cumulative distribution functions $F_{Z_i}(z_i)$ of the normally-distributed random variables $Z_{i=1,2}$ of zero mean, unit variance, and quantile z_i are identical straight lines when plotted on normal probability paper.

APPENDIX C

**COMPUTER PRINTOUTS OF BASIC TRANSMISSION LOSS
QUANTILES FOR DETERMINING CUMULATIVE
DISTRIBUTION FUNCTIONS**

This appendix contains the Johnson-Gierhart program printouts of the basic transmission loss quantiles that were used in constructing the cumulative distribution functions of tables 2-3 and 2-5 in section 2 of volume 1. The run numbers are identified below.

Volume 2	Reference in Volume 1				Volume 2
Run No.	Table	Figure	Case	Lobing	Page
1	2-3	2-3	a,b	Determines Median	C-2
2	2-3	2-3	c,d	Determines Median	C-4
3	2-3	2-3	e,f	Determines Median	C-6
4	2-5	2-4	a,b	Contributes to Variability	C-8
5	2-5	2-4	c,d	Contributes to Variability	C-9
6	2-5	2-4	e,f	Contributes to Variability	C-10

JOHNSON'S GERMANT CUMULATIVE DISTRIBUTION DATA

SURFACE TYPE: POOR GROUND

TERMINAL DELTA IN DB

FREQUENCY 10.0 MC

SURFACE REFLECTION COEFFICIENT DETERMINES MEDIUM

CLIMATE: DESERT

TYPE: BOTHPOLARIZATION CIRCULAR

AIRCRAFT ANTENNA ALTITUDE 2000 FT ABOVE MSL

TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED

TYPE: BOTHPOLARIZATION CIRCULAR

MINIMUM MONTHLY MEAN 300 H (UNITS)

FACILITY ANTENNA HEIGHT 20 FT ABOVE MSL

REFRACTIVITY EFFECTIVE EARTH RADIUS 4425 NM

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

TYPE: BOTHPOLARIZATION CIRCULAR

REFRACTIVITY EFFECTIVE EARTH RADIUS 4425 NM

ESTIMATED QUANTITIES OF TRANSMISSION LOSS (DB)															
D (MM)	FREE SPACE	1%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	EXP VALUE	STD DEV	EFT DIST
0.99	129.29	129.16	129.20	129.25	129.28	129.32	129.35	129.38	129.41	129.45	129.50	129.55	129.56	0.17	0.35
1.00	129.43	129.30	129.34	129.39	129.42	129.46	129.49	129.52	129.55	129.59	129.64	129.69	129.70	0.17	0.35
1.01	129.57	129.44	129.48	129.53	129.56	129.60	129.63	129.66	129.69	129.73	129.78	129.83	129.84	0.17	0.35
1.02	129.71	129.58	129.62	129.67	129.70	129.74	129.77	129.80	129.83	129.87	129.92	129.97	129.98	0.17	0.35
1.03	129.85	129.72	129.76	129.81	129.84	129.88	129.91	129.94	129.97	130.01	130.06	130.11	130.12	0.17	0.35
1.04	129.99	129.86	129.90	129.95	129.98	130.02	130.05	130.08	130.11	130.15	130.20	130.25	130.26	0.17	0.35
1.05	130.13	130.00	130.04	130.09	130.12	130.16	130.19	130.22	130.25	130.29	130.34	130.39	130.40	0.17	0.35
1.06	130.27	130.14	130.18	130.23	130.26	130.30	130.33	130.36	130.39	130.43	130.48	130.53	130.54	0.17	0.35
1.07	130.41	130.28	130.32	130.37	130.40	130.44	130.47	130.50	130.53	130.57	130.62	130.67	130.68	0.17	0.35
1.08	130.55	130.42	130.46	130.51	130.54	130.58	130.61	130.64	130.67	130.71	130.76	130.81	130.82	0.17	0.35
1.09	130.69	130.56	130.60	130.65	130.68	130.72	130.75	130.78	130.81	130.85	130.90	130.95	130.96	0.17	0.35
1.10	130.83	130.70	130.74	130.79	130.82	130.86	130.89	130.92	130.95	130.99	131.04	131.09	131.10	0.17	0.35
1.11	130.97	130.84	130.88	130.93	130.96	131.00	131.03	131.06	131.09	131.13	131.18	131.23	131.24	0.17	0.35
1.12	131.11	130.98	131.02	131.07	131.10	131.14	131.17	131.20	131.23	131.27	131.32	131.37	131.38	0.17	0.35
1.13	131.25	131.12	131.16	131.21	131.24	131.28	131.31	131.34	131.37	131.41	131.46	131.51	131.52	0.17	0.35
1.14	131.39	131.26	131.30	131.35	131.38	131.42	131.45	131.48	131.51	131.55	131.60	131.65	131.66	0.17	0.35
1.15	131.53	131.40	131.44	131.49	131.52	131.56	131.59	131.62	131.65	131.69	131.74	131.79	131.80	0.17	0.35
1.16	131.67	131.54	131.58	131.63	131.66	131.70	131.73	131.76	131.79	131.83	131.88	131.93	131.94	0.17	0.35
1.17	131.81	131.68	131.72	131.77	131.80	131.84	131.87	131.90	131.93	131.97	132.02	132.07	132.08	0.17	0.35
1.18	131.95	131.82	131.86	131.91	131.94	131.98	132.01	132.04	132.07	132.11	132.16	132.21	132.22	0.17	0.35
1.19	132.09	131.96	132.00	132.05	132.08	132.12	132.15	132.18	132.21	132.25	132.30	132.35	132.36	0.17	0.35
1.20	132.23	132.10	132.14	132.19	132.22	132.26	132.29	132.32	132.35	132.39	132.44	132.49	132.50	0.17	0.35
1.21	132.37	132.24	132.28	132.33	132.36	132.40	132.43	132.46	132.49	132.53	132.58	132.63	132.64	0.17	0.35
1.22	132.51	132.38	132.42	132.47	132.50	132.54	132.57	132.60	132.63	132.67	132.72	132.77	132.78	0.17	0.35
1.23	132.65	132.52	132.56	132.61	132.64	132.68	132.71	132.74	132.77	132.81	132.86	132.91	132.92	0.17	0.35
1.24	132.79	132.66	132.70	132.75	132.78	132.82	132.85	132.88	132.91	132.95	133.00	133.05	133.06	0.17	0.35
1.25	132.93	132.80	132.84	132.89	132.92	132.96	132.99	133.02	133.05	133.09	133.14	133.19	133.20	0.17	0.35
1.26	133.07	132.94	132.98	133.03	133.06	133.10	133.13	133.16	133.19	133.23	133.28	133.33	133.34	0.17	0.35
1.27	133.21	133.08	133.12	133.17	133.20	133.24	133.27	133.30	133.33	133.37	133.42	133.47	133.48	0.17	0.35
1.28	133.35	133.22	133.26	133.31	133.34	133.38	133.41	133.44	133.47	133.51	133.56	133.61	133.62	0.17	0.35
1.29	133.49	133.36	133.40	133.45	133.48	133.52	133.55	133.58	133.61	133.65	133.70	133.75	133.76	0.17	0.35
1.30	133.63	133.50	133.54	133.59	133.62	133.66	133.69	133.72	133.75	133.79	133.84	133.89	133.90	0.17	0.35
1.31	133.77	133.64	133.68	133.73	133.76	133.80	133.83	133.86	133.89	133.93	133.98	134.03	134.04	0.17	0.35
1.32	133.91	133.78	133.82	133.87	133.90	133.94	133.97	134.00	134.03	134.07	134.12	134.17	134.18	0.17	0.35
1.33	134.05	133.92	133.96	134.01	134.04	134.08	134.11	134.14	134.17	134.21	134.26	134.31	134.32	0.17	0.35
1.34	134.19	134.06	134.10	134.15	134.18	134.22	134.25	134.28	134.31	134.35	134.40	134.45	134.46	0.17	0.35
1.35	134.33	134.20	134.24	134.29	134.32	134.36	134.39	134.42	134.45	134.49	134.54	134.59	134.60	0.17	0.35
1.36	134.47	134.34	134.38	134.43	134.46	134.50	134.53	134.56	134.59	134.63	134.68	134.73	134.74	0.17	0.35
1.37	134.61	134.48	134.52	134.57	134.60	134.64	134.67	134.70	134.73	134.77	134.82	134.87	134.88	0.17	0.35
1.38	134.75	134.62	134.66	134.71	134.74	134.78	134.81	134.84	134.87	134.91	134.96	135.01	135.02	0.17	0.35
1.39	134.89	134.76	134.80	134.85	134.88	134.92	134.95	134.98	135.01	135.05	135.10	135.15	135.16	0.17	0.35
1.40	134.93	134.80	134.84	134.89	134.92	134.96	134.99	135.02	135.05	135.09	135.14	135.19	135.20	0.17	0.35
1.41	135.07	134.94	134.98	135.03	135.06	135.10	135.13	135.16	135.19	135.23	135.28	135.33	135.34	0.17	0.35
1.42	135.11	134.98	135.02	135.07	135.10	135.14	135.17	135.20	135.23	135.27	135.32	135.37	135.38	0.17	0.35
1.43	135.25	135.12	135.16	135.21	135.24	135.28	135.31	135.34	135.37	135.41	135.46	135.51	135.52	0.17	0.35
1.44	135.39	135.26	135.30	135.35	135.38	135.42	135.45	135.48	135.51	135.55	135.60	135.65	135.66	0.17	0.35
1.45	135.53	135.40	135.44	135.49	135.52	135.56	135.59	135.62	135.65	135.69	135.74	135.79	135.80	0.17	0.35
1.46	135.67	135.54	135.58	135.63	135.66	135.70	135.73	135.76	135.79	135.83	135.88	135.93	135.94	0.17	0.35
1.47	135.81	135.68	135.72	135.77	135.80	135.84	135.87	135.90	135.93	135.97	136.02	136.07	136.08	0.17	0.35
1.48	135.95	135.82	135.86	135.91	135.94	135.98	136.01	136.04	136.07	136.11	136.16	136.21	136.22	0.17	0.35
1.49	136.09	135.96	136.00	136.05	136.08	136.12	136.15	136.18	136.21	136.25	136.30	136.35	136.36	0.17	0.35
1.50	136.23	136.10	136.14	136.19	136.22	136.26	136.29	136.32	136.35	136.39	136.44	136.49	136.50	0.17	0.35
1.51	136.37	136.24	136.28	136.33	136.36	136.40	136.43	136.46	136.49	136.53	136.58	136.63	136.64	0.17	0.35
1.52	136.51	136.38	136.42	136.47	136.50	136.54	136.57	136.60	136.63	136.67	136.72	136.77	136.78	0.17	0.35
1.53	136.65	136.52	136.56	136.61	136.64	136.68	136.71	136.74	136.77	136.81	136.86	136.91	136.92	0.17	0.35
1.54	136.79	136.66	136.70	136.75	136.78	136.82	136.85	136.88	136.91	136.95	137.00	137.05	137.06	0.17	0.35
1.55	136.93	136.80	136.84	136.89	136.92	136.96	136.99	137.02	137.05	137.09	137.14	137.19	137.20	0.17	0.35
1.56	137.07	136.94	136.98	137.03	137.06	137.10	137.13	137.16	137.19	137.23	137.28	137.33	137.34	0.17	0.35
1.57	137.21	137.08	137.12	137.17	137.20	137.24	137.27	137.30	137.33	137.37	137.42	137.47	137.48	0.17	0.35
1.58	137.35	137.22	137.26	137.31	137.34	137.38	137.41	137.44	137.47	137.51	137.56	137.61	137.62	0.17	0.35
1.59	137.49	137.36	137.40	137.45	137.48	137.52	137.55	137.58	137.61	137.65	137.70	137.75	137.76	0.17	0.35
1.60	137.63	137.50	137.54	137.59	137.62	137.66	137.69	137.72	137.75	137.79	137.84	137.89	137.90	0.17	0.35
1.61	137.77	137.64	137.68	137.73	137.76	137.80	137.83	137.86	137.89	137.93	137.98	138.03	138.04	0.17	0.35
1.62	137.91	137.78	137.82	137.87	137.90	137.94	137.97	138.00	138.03	138.07	138.12	138.17	138.18	0.17	0.35
1.63	138.05	137.92	137.96	138.01	138.04	138.08	138.11	138.14	138.17	138.21	138.26	138.31	138.32	0.17	0.35
1.64	138.19	138.06	138.10	138.15	138.18	13									

FREQUENCY: 10 GHz
 ANTENNA: 3000 FT ABOVE MSL
 FACILITY: 20 FT ABOVE MSL
 REFRACTIVITY: EFFECTIVE EARTH RADIUS 4425 NM

JOHNSON & JOHNSON CUMULATIVE DISTRIBUTION DATA
 TERRAIN DATA: 50 FT
 TYPE: BIOTROPIC POLARIZATION CIRCULAR
 TYPE: BIOTROPIC POLARIZATION CIRCULAR
 MINIMUM MONTHLY MEAN: 200 NM

TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED

SURFACE REFLECTION LOSS: DETERMINED BY MEDIAN

TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED															
TYPE: BIOTROPIC; POLARIZATION: CIRCULAR															
ANNUAL MONTHLY AVERAGE 280 N MITS															
ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)															
D (NM)	FREE SPACE	9%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	EXP VALUE	STD DEV	EFF DIST
1.00	112.84	132.61	132.55	132.50	132.44	132.37	132.30	132.23	132.16	132.10	132.04	132.00	132.70	0.12	0.30
1.47	135.70	135.69	135.64	135.58	135.52	135.46	135.39	135.32	135.25	135.18	135.11	135.04	135.70	0.12	1.68
1.97	138.00	138.43	138.47	138.52	138.56	138.59	138.62	138.65	138.69	138.72	138.75	138.78	138.92	0.12	2.77
2.47	140.00	141.99	142.03	142.06	142.12	142.15	142.18	142.21	142.25	142.28	142.31	142.34	142.38	0.12	4.52
2.97	141.85	143.65	143.69	143.74	143.78	143.81	143.84	143.87	143.90	143.93	143.96	143.99	144.04	0.12	5.55
3.47	143.65	145.78	145.82	145.85	145.88	145.91	145.94	145.97	146.00	146.03	146.06	146.09	146.13	0.12	7.12
3.97	145.45	147.99	148.03	148.06	148.09	148.12	148.15	148.18	148.21	148.24	148.27	148.30	148.34	0.12	9.10
4.47	147.25	149.99	150.03	150.06	150.09	150.12	150.15	150.18	150.21	150.24	150.27	150.30	150.34	0.12	10.64
4.97	149.05	151.99	152.03	152.06	152.09	152.12	152.15	152.18	152.21	152.24	152.27	152.30	152.34	0.12	12.13
5.47	150.85	153.99	154.03	154.06	154.09	154.12	154.15	154.18	154.21	154.24	154.27	154.30	154.34	0.12	13.67
5.97	152.65	155.99	156.03	156.06	156.09	156.12	156.15	156.18	156.21	156.24	156.27	156.30	156.34	0.12	15.00
6.47	154.45	157.99	158.03	158.06	158.09	158.12	158.15	158.18	158.21	158.24	158.27	158.30	158.34	0.12	16.87
6.97	156.25	160.99	161.03	161.06	161.09	161.12	161.15	161.18	161.21	161.24	161.27	161.30	161.34	0.12	18.57
7.47	158.05	162.99	163.03	163.06	163.09	163.12	163.15	163.18	163.21	163.24	163.27	163.30	163.34	0.12	19.48
7.97	159.85	164.99	165.03	165.06	165.09	165.12	165.15	165.18	165.21	165.24	165.27	165.30	165.34	0.12	20.94
8.47	161.65	166.99	167.03	167.06	167.09	167.12	167.15	167.18	167.21	167.24	167.27	167.30	167.34	0.12	22.47
8.97	163.45	168.99	169.03	169.06	169.09	169.12	169.15	169.18	169.21	169.24	169.27	169.30	169.34	0.12	23.91
9.47	165.25	170.99	171.03	171.06	171.09	171.12	171.15	171.18	171.21	171.24	171.27	171.30	171.34	0.12	25.42
9.97	167.05	172.99	173.03	173.06	173.09	173.12	173.15	173.18	173.21	173.24	173.27	173.30	173.34	0.12	26.84
10.47	168.85	174.99	175.03	175.06	175.09	175.12	175.15	175.18	175.21	175.24	175.27	175.30	175.34	0.12	28.41
10.97	170.65	176.99	177.03	177.06	177.09	177.12	177.15	177.18	177.21	177.24	177.27	177.30	177.34	0.12	29.79
11.47	172.45	178.99	179.03	179.06	179.09	179.12	179.15	179.18	179.21	179.24	179.27	179.30	179.34	0.12	31.27
11.97	174.25	180.99	181.03	181.06	181.09	181.12	181.15	181.18	181.21	181.24	181.27	181.30	181.34	0.12	32.85
12.47	176.05	182.99	183.03	183.06	183.09	183.12	183.15	183.18	183.21	183.24	183.27	183.30	183.34	0.12	34.26
12.97	177.85	184.99	185.03	185.06	185.09	185.12	185.15	185.18	185.21	185.24	185.27	185.30	185.34	0.12	35.81
13.47	179.65	186.99	187.03	187.06	187.09	187.12	187.15	187.18	187.21	187.24	187.27	187.30	187.34	0.12	37.27
13.97	181.45	188.99	189.03	189.06	189.09	189.12	189.15	189.18	189.21	189.24	189.27	189.30	189.34	0.12	38.74
14.47	183.25	190.99	191.03	191.06	191.09	191.12	191.15	191.18	191.21	191.24	191.27	191.30	191.34	0.12	39.88
14.97	185.05	192.99	193.03	193.06	193.09	193.12	193.15	193.18	193.21	193.24	193.27	193.30	193.34	0.12	40.11
15.47	186.85	194.99	195.03	195.06	195.09	195.12	195.15	195.18	195.21	195.24	195.27	195.30	195.34	0.12	40.25
15.97	188.65	196.99	197.03	197.06	197.09	197.12	197.15	197.18	197.21	197.24	197.27	197.30	197.34	0.12	40.87
16.47	190.45	198.99	199.03	199.06	199.09	199.12	199.15	199.18	199.21	199.24	199.27	199.30	199.34	0.12	41.04
16.97	192.25	200.99	201.03	201.06	201.09	201.12	201.15	201.18	201.21	201.24	201.27	201.30	201.34	0.12	41.52
17.47	194.05	202.99	203.03	203.06	203.09	203.12	203.15	203.18	203.21	203.24	203.27	203.30	203.34	0.12	41.73
17.97	195.85	204.99	205.03	205.06	205.09	205.12	205.15	205.18	205.21	205.24	205.27	205.30	205.34	0.12	42.00
18.47	197.65	206.99	207.03	207.06	207.09	207.12	207.15	207.18	207.21	207.24	207.27	207.30	207.34	0.12	42.50
18.97	199.45	208.99	209.03	209.06	209.09	209.12	209.15	209.18	209.21	209.24	209.27	209.30	209.34	0.12	43.42
19.47	201.25	210.99	211.03	211.06	211.09	211.12	211.15	211.18	211.21	211.24	211.27	211.30	211.34	0.12	44.02
19.97	203.05	212.99	213.03	213.06	213.09	213.12	213.15	213.18	213.21	213.24	213.27	213.30	213.34	0.12	44.55
20.47	204.85	214.99	215.03	215.06	215.09	215.12	215.15	215.18	215.21	215.24	215.27	215.30	215.34	0.12	44.89
20.97	206.65	216.99	217.03	217.06	217.09	217.12	217.15	217.18	217.21	217.24	217.27	217.30	217.34	0.12	45.08
21.47	208.45	218.99	219.03	219.06	219.09	219.12	219.15	219.18	219.21	219.24	219.27	219.30	219.34	0.12	45.85
21.97	210.25	220.99	221.03	221.06	221.09	221.12	221.15	221.18	221.21	221.24	221.27	221.30	221.34	0.12	46.17
22.47	212.05	222.99	223.03	223.06	223.09	223.12	223.15	223.18	223.21	223.24	223.27	223.30	223.34	0.12	46.17
22.97	213.85	224.99	225.03	225.06	225.09	225.12	225.15	225.18	225.21	225.24	225.27	225.30	225.34	0.12	47.33
23.47	215.65	226.99	227.03	227.06	227.09	227.12	227.15	227.18	227.21	227.24	227.27	227.30	227.34	0.12	47.30
23.97	217.45	228.99	229.03	229.06	229.09	229.12	229.15	229.18	229.21	229.24	229.27	229.30	229.34	0.12	47.86
24.47	219.25	230.99	231.03	231.06	231.09	231.12	231.15	231.18	231.21	231.24	231.27	231.30	231.34	0.12	47.86
24.97	221.05	232.99	233.03	233.06	233.09	233.12	233.15	233.18	233.21	233.24	233.27	233.30	233.34	0.12	48.47
25.47	222.85	234.99	235.03	235.06	235.09	235.12	235.15	235.18	235.21	235.24	235.27	235.30	235.34	0.12	48.08
25.97	224.65	236.99	237.03	237.06	237.09	237.12	237.15	237.18	237.21	237.24	237.27	237.30	237.34	0.12	48.13
26.47	226.45	238.99	239.03	239.06	239.09	239.12	239.15	239.18	239.21	239.24	239.27	239.30	239.34	0.12	48.13
26.97	228.25	240.99	241.03	241.06	241.09	241.12	241.15	241.18	241.21	241.24	241.27	241.30	241.34	0.12	48.13
27.47	230.05	242.99	243.03	243.06	243.09	243.12	243.15	243.18	243.21	243.24	243.27	243.30	243.34	0.12	48.13
27.97	231.85	244.99	245.03	245.06	245.09	245.12	245.15	245.18	245.21	245.24	245.27	245.30	245.34	0.12	48.13
28.47	233.65	246.99	247.03	247.06	247.09	247.12	247.15	247.18	247.21	247.24	247.27	247.30	247.34	0.12	48.13
28.97	235.45	248.99	249.03	249.06	249.09	249.12	249.15	249.18	249.21	249.24	249.27	249.30	249.34	0.12	48.13
29.47	237.25	250.99	251.03	251.06	251.09	251.12	251.15	251.18	251.21	251.24	251.27	251.30	251.34	0.12	48.13
29.97	239.05	252.99	253.03	253.06	253.09	253.12	253.15	253.18	253.21	253.24	253.27	253.30	253.34	0.12	48.13
30.47	240.85	254.99	255.03	255.06	255.09	255.12	255.15	255.18	255.21	255.24	255.27	255.30	255.34	0.12	48.13
30.97	242.65	256.99	257.03	257.06	257.09	257.12	257.15	257.18	257.21	257.24	257.27	257.30	257.34	0.12	48.13
31.47	244.45	258.99	259.03	259.06	259.09	259.12	259.15	259.18	259.21	259.24	259.27	259.30	259.34	0.12	48.13
31.97	246.25	260.99	261.03	261.06	261.09	261.12	261.15	261.18	261.21	261.24	261.27	261.30	261.34	0.12	48.13
32.4															

171.00	182.47	180.43	181.63	181.74	182.32	183.83	185.63	187.02	188.80	170.42	173.32	178.09	188.54	4.88	50.61
171.98	182.52	180.48	181.07	181.78	182.38	183.98	185.81	187.11	188.71	170.55	173.45	178.28	188.65	4.91	50.90
172.94	182.57	180.53	181.15	181.85	182.43	184.03	185.86	187.16	188.76	170.60	173.50	178.33	188.70	5.03	51.64
173.90	182.62	180.58	181.22	181.92	182.48	184.08	185.91	187.21	188.81	170.65	173.55	178.38	188.75	5.13	52.09
174.86	182.67	180.63	181.29	181.99	182.53	184.13	185.96	187.26	188.86	170.70	173.60	178.43	188.80	5.14	52.18
175.82	182.72	180.68	181.36	182.04	182.58	184.18	186.01	187.31	188.91	170.75	173.65	178.48	188.85	5.28	52.44
176.78	182.77	180.73	181.43	182.12	182.63	184.23	186.06	187.36	188.96	170.80	173.70	178.53	188.90	5.41	53.50
180.00	182.85	180.81	181.51	182.20	182.71	184.31	186.14	187.44	189.04	170.88	173.78	178.61	188.98	5.42	53.67
183.04	183.04	180.90	181.60	182.28	182.80	184.40	186.23	187.52	189.12	170.96	173.86	178.69	189.06	5.54	54.17
185.35	183.17	180.97	181.67	182.35	182.87	184.47	186.30	187.59	189.19	171.03	173.93	178.76	189.13	5.64	54.77
187.70	183.28	181.04	181.74	182.42	182.94	184.54	186.37	187.66	189.26	171.10	174.00	178.83	189.20	5.72	55.04
189.00	183.39	181.11	181.81	182.49	183.01	184.61	186.44	187.73	189.33	171.17	174.07	178.90	189.27	5.82	55.85
191.00	183.43	181.15	181.85	182.53	183.05	184.65	186.48	187.77	189.37	171.21	174.11	178.94	189.31	5.86	56.28
192.51	183.50	181.22	181.92	182.60	183.12	184.72	186.55	187.84	189.44	171.28	174.18	179.01	189.38	6.05	56.83
194.87	183.61	181.29	181.99	182.67	183.19	184.79	186.62	187.91	189.51	171.35	174.25	179.08	189.45	6.18	56.9
196.98	183.72	181.36	182.06	182.74	183.26	184.86	186.69	188.00	189.58	171.42	174.32	179.15	189.52	6.42	57.71
198.98	183.86	181.43	182.13	182.81	183.31	184.93	186.76	188.07	189.65	171.49	174.39	179.22	189.59	6.53	58.01
200.04	183.98	181.50	182.20	182.88	183.38	185.00	186.83	188.14	189.72	171.56	174.46	179.29	189.66	6.64	58.48
201.00	184.00	181.54	182.24	182.92	183.42	185.04	186.87	188.18	189.76	171.60	174.50	179.33	189.70	6.76	59.20
202.65	184.06	181.61	182.31	183.00	183.46	185.11	186.94	188.25	189.83	171.67	174.57	179.40	189.77	6.91	59.49
205.33	184.14	181.68	182.38	183.07	183.53	185.18	187.01	188.32	189.90	171.74	174.64	179.47	189.84	6.97	59.89
206.00	184.19	181.72	182.42	183.11	183.57	185.22	187.05	188.36	190.00	171.78	174.68	179.51	189.88	7.24	60.77
208.11	184.30	181.79	182.49	183.18	183.64	185.29	187.10	188.41	190.07	171.83	174.73	179.56	189.93	7.29	60.97
211.00	184.39	181.86	182.56	183.25	183.71	185.36	187.17	188.48	190.14	171.90	174.80	179.63	189.99	7.19	61.59
213.22	184.44	181.90	182.60	183.29	183.75	185.40	187.21	188.52	190.18	171.94	174.84	179.67	190.03	7.02	62.45
214.40	184.49	181.94	182.64	183.33	183.79	185.44	187.25	188.56	190.22	171.98	174.88	179.71	190.07	7.02	62.47
216.17	184.57	182.00	182.72	183.41	183.87	185.51	187.30	188.61	190.27	172.03	174.93	179.76	190.12	7.28	63.10
218.50	184.60	182.05	182.77	183.46	183.92	185.56	187.35	188.66	190.32	172.08	174.98	179.81	190.17	7.61	63.45
218.72	184.62	182.07	182.79	183.48	183.94	185.58	187.37	188.68	190.34	172.10	175.00	179.83	190.19	7.80	63.88
218.94	184.64	182.09	182.81	183.50	183.96	185.60	187.39	188.70	190.36	172.12	175.02	179.85	190.21	8.13	63.85
218.98	184.65	182.10	182.82	183.51	183.97	185.61	187.40	188.71	190.37	172.13	175.03	179.86	190.22	8.24	63.83
219.00	184.66	182.11	182.83	183.52	183.98	185.62	187.41	188.72	190.38	172.14	175.04	179.87	190.23	8.29	63.97
219.02	184.67	182.12	182.84	183.53	183.99	185.63	187.42	188.73	190.39	172.15	175.05	179.88	190.24	8.41	64.07
219.04	184.68	182.13	182.85	183.54	184.00	185.64	187.43	188.74	190.40	172.16	175.06	179.89	190.25	8.49	64.15
219.06	184.69	182.14	182.86	183.55	184.01	185.65	187.44	188.75	190.41	172.17	175.07	179.90	190.26	8.60	64.18
219.08	184.70	182.15	182.87	183.56	184.02	185.66	187.45	188.76	190.42	172.18	175.08	179.91	190.27	8.70	64.21
219.10	184.71	182.16	182.88	183.57	184.03	185.67	187.46	188.77	190.43	172.19	175.09	179.92	190.28	9.26	64.43
219.12	184.72	182.17	182.89	183.58	184.04	185.68	187.47	188.78	190.44	172.20	175.10	179.93	190.29	9.33	64.48
219.14	184.73	182.18	182.90	183.59	184.05	185.69	187.48	188.79	190.45	172.21	175.11	179.94	190.30	9.43	64.53
219.16	184.74	182.19	182.91	183.60	184.06	185.70	187.49	188.80	190.46	172.22	175.12	179.95	190.31	9.50	64.58
219.18	184.75	182.20	182.92	183.61	184.07	185.71	187.50	188.81	190.47	172.23	175.13	179.96	190.32	9.63	64.63
219.20	184.76	182.21	182.93	183.62	184.08	185.72	187.51	188.82	190.48	172.24	175.14	179.97	190.33	9.67	64.68
219.22	184.77	182.22	182.94	183.63	184.09	185.73	187.52	188.83	190.49	172.25	175.15	179.98	190.34	9.61	64.73
219.24	184.78	182.23	182.95	183.64	184.10	185.74	187.53	188.84	190.50	172.26	175.16	179.99	190.35		
219.26	184.79	182.24	182.96	183.65	184.11	185.75	187.54	188.85	190.51	172.27	175.17	180.00	190.36		
219.28	184.80	182.25	182.97	183.66	184.12	185.76	187.55	188.86	190.52	172.28	175.18	180.01	190.37		
219.30	184.81	182.26	182.98	183.67	184.13	185.77	187.56	188.87	190.53	172.29	175.19	180.02	190.38		
219.32	184.82	182.27	182.99	183.68	184.14	185.78	187.57	188.88	190.54	172.30	175.20	180.03	190.39		
219.34	184.83	182.28	183.00	183.69	184.15	185.79	187.58	188.89	190.55	172.31	175.21	180.04	190.40		
219.36	184.84	182.29	183.01	183.70	184.16	185.80	187.59	188.90	190.56	172.32	175.22	180.05	190.41		
219.38	184.85	182.30	183.02	183.71	184.17	185.81	187.60	188.91	190.57	172.33	175.23	180.06	190.42		
219.40	184.86	182.31	183.03	183.72	184.18	185.82	187.61	188.92	190.58	172.34	175.24	180.07	190.43		
219.42	184.87	182.32	183.04	183.73	184.19	185.83	187.62	188.93	190.59	172.35	175.25	180.08	190.44		
219.44	184.88	182.33	183.05	183.74	184.20	185.84	187.63	188.94	190.60	172.36	175.26	180.09	190.45		
219.46	184.89	182.34	183.06	183.75	184.21	185.85	187.64	188.95	190.61	172.37	175.27	180.10	190.46		
219.48	184.90	182.35	183.07	183.76	184.22	185.86	187.65	188.96	190.62	172.38	175.28	180.11	190.47		
219.50	184.91	182.36	183.08	183.77	184.23	185.87	187.66	188.97	190.63	172.39	175.29	180.12	190.48		
219.52	184.92	182.37	183.09	183.78	184.24	185.88	187.67	188.98	190.64	172.40	175.30	180.13	190.49		
219.54	184.93	182.38	183.10	183.79	184.25	185.89	187.68	188.99	190.65	172.41	175.31	180.14	190.50		
219.56	184.94	182.39	183.11	183.80	184.26	185.90	187.69	189.00	190.66	172.42	175.32	180.15	190.51		
219.58	184.95	182.40	183.12	183.81	184.27	185.91	187.70	189.01	190.67	172.43	175.33	180.16	190.52		
219.60	184.96	182.41	183.13	183.82	184.28	185.92	187.71	189.02	190.68	172.44	175.34	180.17	190.53		
219.62	184.97	182.42	183.14	183.83	184.29	185.93	187.72	189.03	190.69	172.45	175.35	180.18	190.54		
219.64	184.98	182.43	183.15	183.84	184.30	185.94	187.73	189.04	190.70	172.46	175.36	180.19	190.55		
219.66	184.99	182.44	183.16	183.85	184.31	185.95	187.74	189.05	190.71	172.47	175.37	180.20	190.56		
219.68	185.00	182.45	183.17	183.86	184.32	185.96	187.75	189.06	190.72	172.48	175.38	180.21	190.57		
219.70	185.01	182.46	183.18	183.87	184.33	185.97	187.76	189.07	190.73	172.49	175.39	180.22	190.58		
219.72	185.02	182.47	183.19	183.88	184.34	185.98	187.77	189.08	190.74	172.50	175.40	180.23	190.59		
219.74	185.03	182.48	183.20	183.89	184.35	185.99	187.78	189.09	190.75	172.51	175.41	180.24	190.60		
219.76	185.04	182.49	183.21	183.90	184.36	186.00	187.79	189.10	190.76	172.52	175.42	180.25	190.61		
219.78	185.05	182.50	183.22	183.91	184.37	186.01	187.80	189.11	190.77	172.53	175.43	180.26	190.62		
219.80	185.06</														

FREQUENCY 10.02
 AIRCRAFT ANTENNA ALTITUDE 4000 FT ABOVE MSL
 FACILITY ANTENNA HEIGHT 20.0 FT ABOVE MSL
 REFRACTIVITY EFFECTIVE EARTH RADIUS 4233 NM

JOHNSON & GIERHART CUMULATIVE DISTRIBUTION DATA

TERRAIN DELTA IN 50 FT
 TYPE ISOTROPIC POLARIZATION CIRCULAR
 TYPE ISOTROPIC POLARIZATION CIRCULAR
 MONTHLY MEAN 200 UNITS

SURFACE TYPE POLAR GROUND

CLIMATE DESERT

SURFACE REFLECTION LOSS

DETERMINES MEDIAN

TRUE AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

D (NM)	FREE SPACE	1%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	EXP VALUE	STD DEV	EFF DIST
1.00	138.56	138.42	138.48	138.52	138.55	138.56	138.61	138.64	138.68	138.71	138.77	138.81	138.82	0.12	0.22
5.45	139.54	139.46	139.46	139.53	139.57	139.60	139.63	139.64	139.68	139.73	139.77	139.81	139.82	0.12	1.23
10.85	141.47	141.36	141.40	141.53	141.57	141.62	141.65	141.68	141.72	141.75	141.79	141.83	141.85	0.12	2.33
13.70	142.66	142.67	142.61	142.68	142.70	142.73	142.76	142.78	142.82	142.84	142.87	142.90	142.92	0.12	2.88
17.90	144.23	144.18	144.20	144.25	144.29	144.32	144.36	144.38	144.41	144.45	144.54	144.56	144.58	0.12	3.89
24.44	146.38	146.32	146.38	146.41	146.45	146.48	146.51	146.54	146.58	146.61	146.67	146.71	146.72	0.12	5.32
28.54	148.38	148.32	148.38	148.41	148.45	148.47	148.53	148.56	148.59	148.61	148.67	148.71	148.72	0.12	6.43
32.81	149.89	149.80	149.84	149.89	149.93	149.96	149.98	149.99	150.01	150.03	150.07	150.09	150.10	0.12	7.14
38.76	151.49	149.82	149.86	149.81	149.85	149.88	149.71	149.82	149.87	149.81	149.87	149.91	149.79	0.12	8.00
41.68	152.80	150.67	150.61	150.66	150.69	150.68	150.78	150.78	150.82	150.84	150.91	150.91	150.76	0.12	9.07
48.00	154.88	151.78	151.80	151.85	151.89	151.92	151.96	151.98	152.02	152.06	152.11	152.15	151.95	0.12	10.45
55.93	157.03	153.08	153.13	153.21	153.24	153.27	153.30	153.33	153.34	153.43	153.43	153.47	153.28	0.12	12.17
65.40	159.38	153.68	153.73	153.85	153.89	153.92	153.96	153.99	154.01	154.06	154.10	154.16	153.96	0.12	13.14
75.90	161.82	154.27	154.48	154.63	154.67	154.66	154.74	154.74	154.78	154.83	154.84	154.86	154.68	0.12	14.27
87.40	164.38	156.42	156.17	156.21	156.28	156.33	156.36	156.39	156.43	156.46	156.48	156.48	156.34	0.12	15.41
99.90	167.03	156.51	156.80	156.84	156.89	156.90	156.93	156.95	156.97	156.99	156.99	156.99	156.86	0.12	16.61
113.41	169.78	156.03	156.36	156.40	156.45	156.48	156.48	156.50	156.51	156.56	156.56	156.56	156.49	0.12	17.85
127.92	172.63	156.91	157.04	157.01	157.04	157.06	157.11	157.14	157.17	157.21	157.21	157.31	157.11	0.12	18.67
143.43	175.58	157.43	157.47	157.52	157.54	157.59	157.62	157.65	157.68	157.72	157.72	157.82	157.62	0.12	19.74
159.94	178.63	157.95	158.00	158.02	158.04	158.07	158.10	158.13	158.18	158.20	158.24	158.30	158.10	0.12	20.79
177.45	181.78	158.41	158.46	158.47	158.49	158.57	158.61	158.64	158.67	158.71	158.77	158.81	158.61	0.12	21.84
195.96	185.03	158.88	158.88	158.84	158.90	159.01	159.04	159.07	159.11	159.15	159.21	159.25	159.04	0.12	22.98
215.47	188.38	159.26	159.30	159.35	159.39	159.42	159.46	159.49	159.52	159.56	159.62	159.67	159.46	0.12	24.01
235.98	191.83	159.70	159.82	159.78	159.82	159.84	159.89	159.92	159.94	159.98	160.00	160.04	159.89	0.12	25.12
257.49	195.38	160.13	160.17	160.22	160.23	160.31	160.34	160.38	160.41	160.46	160.52	160.57	160.34	0.12	26.32
279.00	199.03	160.50	160.65	160.69	160.81	160.89	160.92	160.96	160.98	160.94	160.91	160.90	160.73	0.12	27.37
301.51	202.78	160.80	160.93	160.99	161.04	161.06	161.11	161.15	161.19	161.24	161.30	161.36	161.12	0.12	28.48
325.02	206.63	161.28	161.35	161.40	161.44	161.44	161.48	161.52	161.57	161.62	161.69	161.74	161.48	0.12	29.65
349.53	210.58	161.56	161.63	161.70	161.75	161.80	161.84	161.88	161.93	162.00	162.04	162.08	161.84	0.12	30.62
375.04	214.63	161.90	161.97	162.05	162.11	162.18	162.24	162.28	162.32	162.37	162.45	162.52	162.34	0.12	31.78
401.55	218.78	162.29	162.37	162.46	162.53	162.58	162.64	162.68	162.72	162.77	162.81	162.86	162.64	0.21	32.80
429.06	223.03	162.68	162.76	162.84	162.88	162.96	163.02	163.04	163.09	163.15	163.26	163.27	162.87	0.28	33.87
457.57	227.38	163.08	163.16	163.24	163.26	163.34	163.38	163.43	163.47	163.53	163.57	163.67	163.22	0.28	35.00
487.08	231.83	162.94	163.08	163.24	163.36	163.48	163.56	163.61	163.73	163.84	163.91	164.12	163.64	0.36	36.08
517.59	236.38	162.23	162.44	162.58	162.70	162.84	163.08	163.41	163.68	164.18	164.54	164.90	163.64	0.37	37.13
549.10	241.03	162.47	162.92	163.13	163.38	163.72	163.86	164.01	164.34	164.94	165.23	165.60	164.19	0.88	38.22
581.61	245.78	162.72	162.82	163.11	163.48	163.75	163.96	164.31	164.64	164.94	165.23	165.60	164.19	0.88	39.38
615.12	250.63	162.84	162.81	163.04	163.75	163.84	164.28	164.53	164.83	165.15	165.42	165.68	164.19	1.18	40.45
649.63	255.68	162.94	162.81	163.04	163.75	163.84	164.28	164.53	164.83	165.15	165.42	165.68	164.19	1.18	41.60
685.14	260.83	163.04	162.84	163.22	163.84	163.92	164.36	164.61	164.91	165.18	165.45	165.71	164.19	1.18	42.85
721.65	266.08	163.07	163.13	163.27	163.84	163.92	164.36	164.61	164.91	165.18	165.45	165.71	164.19	1.18	43.72
759.16	271.43	163.09	163.13	163.28	163.88	163.96	164.40	164.65	164.95	165.22	165.49	165.76	164.40	3.52	44.83
797.67	276.88	163.10	163.16	163.26	163.88	163.96	164.40	164.65	164.95	165.22	165.49	165.76	164.40	3.52	45.89
837.18	282.43	163.11	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	46.99
877.69	288.08	163.12	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	48.09
919.20	293.83	163.13	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	48.89
961.71	299.68	163.14	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	49.89
1005.22	305.63	163.15	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	50.89
1050.73	311.68	163.16	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	51.89
1107.24	317.83	163.17	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	52.89
1165.75	324.08	163.18	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	53.89
1226.26	330.43	163.19	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	54.89
1288.77	336.88	163.20	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	55.89
1353.28	343.43	163.21	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	56.89
1419.79	350.08	163.22	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	57.89
1488.30	356.83	163.23	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	58.89
1558.81	363.68	163.24	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	59.89
1631.32	370.63	163.25	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	60.89
1705.83	377.68	163.26	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	61.89
1782.34	384.83	163.27	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	62.89
1860.85	392.08	163.28	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	63.89
1941.36	399.43	163.29	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	64.89
2023.87	406.88	163.30	163.17	163.26	163.78	163.84	164.27	164.51	164.81	165.11	165.38	165.65	164.40	3.52	65.89
2108.38	414.43	163.31	163.17	163.26	163.78	163.84	164.27	164.51</							

228.84	185.02	163.33	163.84	164.64	164.83	165.99	167.45	168.74	170.12	171.71	174.12	178.31	188.40	4.88	43.80
230.84	186.09	163.37	163.88	164.60	164.89	167.56	167.56	168.89	170.28	171.81	174.37	178.42	188.64	4.16	50.24
231.00	185.10	163.37	163.88	164.50	164.89	167.56	167.56	168.89	170.30	171.82	174.39	178.44	188.65	4.16	50.24
232.91	185.17	163.41	163.94	164.54	164.94	167.60	167.60	168.93	170.47	172.11	174.62	178.48	188.65	4.16	50.24
234.87	186.24	163.45	163.99	164.62	165.03	167.65	167.65	168.98	170.64	172.31	174.86	178.53	188.65	4.32	51.13
236.80	187.31	163.49	164.04	164.66	165.07	167.70	167.70	169.03	170.73	172.42	174.97	178.59	188.65	4.32	51.13
238.00	188.38	163.53	164.08	164.68	165.10	167.75	167.75	169.08	170.82	172.53	175.08	178.64	188.65	4.48	51.59
239.04	189.45	163.54	164.09	164.69	165.11	167.76	167.76	169.09	170.83	172.54	175.09	178.65	188.65	4.51	52.05
240.17	190.52	163.55	164.10	164.70	165.12	167.77	167.77	169.10	170.84	172.55	175.10	178.66	188.65	4.51	52.05
241.00	191.59	163.56	164.11	164.71	165.13	167.78	167.78	169.11	170.85	172.56	175.11	178.67	188.65	4.51	52.05
242.10	192.66	163.57	164.12	164.72	165.14	167.79	167.79	169.12	170.86	172.57	175.12	178.68	188.65	4.51	52.05
243.48	193.73	163.58	164.13	164.73	165.15	167.80	167.80	169.13	170.87	172.58	175.13	178.69	188.65	4.51	52.05
244.86	194.80	163.59	164.14	164.74	165.16	167.81	167.81	169.14	170.88	172.59	175.14	178.70	188.65	4.51	52.05
246.00	195.87	163.60	164.15	164.75	165.17	167.82	167.82	169.15	170.89	172.60	175.15	178.71	188.65	4.51	52.05
247.85	196.94	163.61	164.16	164.76	165.18	167.83	167.83	169.16	170.90	172.61	175.16	178.72	188.65	4.51	52.05
249.00	198.01	163.62	164.17	164.77	165.19	167.84	167.84	169.17	170.91	172.62	175.17	178.73	188.65	4.51	52.05
250.08	199.08	163.63	164.18	164.78	165.20	167.85	167.85	169.18	170.92	172.63	175.18	178.74	188.65	4.51	52.05
251.00	200.15	163.64	164.19	164.79	165.21	167.86	167.86	169.19	170.93	172.64	175.19	178.75	188.65	4.51	52.05
252.33	201.22	163.65	164.20	164.80	165.22	167.87	167.87	169.20	170.94	172.65	175.20	178.76	188.65	4.51	52.05
254.81	202.29	163.66	164.21	164.81	165.23	167.88	167.88	169.21	170.95	172.66	175.21	178.77	188.65	4.51	52.05
256.00	203.36	163.67	164.22	164.82	165.24	167.89	167.89	169.22	170.96	172.67	175.22	178.78	188.65	4.51	52.05
258.33	204.43	163.68	164.23	164.83	165.25	167.90	167.90	169.23	170.97	172.68	175.23	178.79	188.65	4.51	52.05
260.81	205.50	163.69	164.24	164.84	165.26	167.91	167.91	169.24	170.98	172.69	175.24	178.80	188.65	4.51	52.05
262.10	206.57	163.70	164.25	164.85	165.27	167.92	167.92	169.25	170.99	172.70	175.25	178.81	188.65	4.51	52.05
264.81	207.64	163.71	164.26	164.86	165.28	167.93	167.93	169.26	171.00	172.71	175.26	178.82	188.65	4.51	52.05
266.00	208.71	163.72	164.27	164.87	165.29	167.94	167.94	169.27	171.01	172.72	175.27	178.83	188.65	4.51	52.05
268.88	209.78	163.73	164.28	164.88	165.30	167.95	167.95	169.28	171.02	172.73	175.28	178.84	188.65	4.51	52.05
269.39	210.85	163.74	164.29	164.89	165.31	167.96	167.96	169.29	171.03	172.74	175.29	178.85	188.65	4.51	52.05
271.00	211.92	163.75	164.30	164.90	165.32	167.97	167.97	169.30	171.04	172.75	175.30	178.86	188.65	4.51	52.05
273.74	212.99	163.76	164.31	164.91	165.33	167.98	167.98	169.31	171.05	172.76	175.31	178.87	188.65	4.51	52.05
276.00	214.06	163.77	164.32	164.92	165.34	167.99	167.99	169.32	171.06	172.77	175.32	178.88	188.65	4.51	52.05
278.28	215.13	163.78	164.33	164.93	165.35	168.00	168.00	169.33	171.07	172.78	175.33	178.89	188.65	4.51	52.05
280.80	216.20	163.79	164.34	164.94	165.36	168.01	168.01	169.34	171.08	172.79	175.34	178.90	188.65	4.51	52.05
282.10	217.27	163.80	164.35	164.95	165.37	168.02	168.02	169.35	171.09	172.80	175.35	178.91	188.65	4.51	52.05
284.00	218.34	163.81	164.36	164.96	165.38	168.03	168.03	169.36	171.10	172.81	175.36	178.92	188.65	4.51	52.05
286.00	219.41	163.82	164.37	164.97	165.39	168.04	168.04	169.37	171.11	172.82	175.37	178.93	188.65	4.51	52.05
288.88	220.48	163.83	164.38	164.98	165.40	168.05	168.05	169.38	171.12	172.83	175.38	178.94	188.65	4.51	52.05
291.00	221.55	163.84	164.39	164.99	165.41	168.06	168.06	169.39	171.13	172.84	175.39	178.95	188.65	4.51	52.05
292.20	222.62	163.85	164.40	165.00	165.42	168.07	168.07	169.40	171.14	172.85	175.40	178.96	188.65	4.51	52.05
294.00	223.69	163.86	164.41	165.01	165.43	168.08	168.08	169.41	171.15	172.86	175.41	178.97	188.65	4.51	52.05
296.18	224.76	163.87	164.42	165.02	165.44	168.09	168.09	169.42	171.16	172.87	175.42	178.98	188.65	4.51	52.05
298.00	225.83	163.88	164.43	165.03	165.45	168.10	168.10	169.43	171.17	172.88	175.43	178.99	188.65	4.51	52.05
300.28	226.90	163.89	164.44	165.04	165.46	168.11	168.11	169.44	171.18	172.89	175.44	179.00	188.65	4.51	52.05
302.88	227.97	163.90	164.45	165.05	165.47	168.12	168.12	169.45	171.19	172.90	175.45	179.01	188.65	4.51	52.05
304.81	229.04	163.91	164.46	165.06	165.48	168.13	168.13	169.46	171.20	172.91	175.46	179.02	188.65	4.51	52.05
306.00	230.11	163.92	164.47	165.07	165.49	168.14	168.14	169.47	171.21	172.92	175.47	179.03	188.65	4.51	52.05
308.88	231.18	163.93	164.48	165.08	165.50	168.15	168.15	169.48	171.22	172.93	175.48	179.04	188.65	4.51	52.05
310.00	232.25	163.94	164.49	165.09	165.51	168.16	168.16	169.49	171.23	172.94	175.49	179.05	188.65	4.51	52.05
312.00	233.32	163.95	164.50	165.10	165.52	168.17	168.17	169.50	171.24	172.95	175.50	179.06	188.65	4.51	52.05
314.81	234.39	163.96	164.51	165.11	165.53	168.18	168.18	169.51	171.25	172.96	175.51	179.07	188.65	4.51	52.05
316.00	235.46	163.97	164.52	165.12	165.54	168.19	168.19	169.52	171.26	172.97	175.52	179.08	188.65	4.51	52.05
318.88	236.53	163.98	164.53	165.13	165.55	168.20	168.20	169.53	171.27	172.98	175.53	179.09	188.65	4.51	52.05
321.00	237.60	163.99	164.54	165.14	165.56	168.21	168.21	169.54	171.28	172.99	175.54	179.10	188.65	4.51	52.05
323.96	238.67	164.00	164.55	165.15	165.57	168.22	168.22	169.55	171.29	173.00	175.55	179.11	188.65	4.51	52.05
326.00	239.74	164.01	164.56	165.16	165.58	168.23	168.23	169.56	171.30	173.01	175.56	179.12	188.65	4.51	52.05
328.80	240.81	164.02	164.57	165.17	165.59	168.24	168.24	169.57	171.31	173.02	175.57	179.13	188.65	4.51	52.05
331.00	241.88	164.03	164.58	165.18	165.60	168.25	168.25	169.58	171.32	173.03	175.58	179.14	188.65	4.51	52.05
333.96	242.95	164.04	164.59	165.19	165.61	168.26	168.26	169.59	171.33	173.04	175.59	179.15	188.65	4.51	52.05
336.00	244.02	164.05	164.60	165.20	165.62	168.27	168.27	169.60	171.34	173.05	175.60	179.16	188.65	4.51	52.05
338.88	245.09	164.06	164.61	165.21	165.63	168.28	168.28	169.61	171.35	173.06	175.61	179.17	188.65	4.51	52.05
341.00	246.16	164.07	164.62	165.22	165.64	168.29	168.29	169.62	171.36	173.07	175.62	179.18	188.65	4.51	52.05
343.96	247.23	164.08	164.63	165.23	165.65	168.30	168.30	169.63	171.37	173.08	175.63	179.19	188.65	4.51	52.05
346.00	248.30	164.09	164.64	165.24	165.66	168.31	168.31	169.64	171.38	173.09	175.64	179.20	188.65	4.51	52.05
348.88	249.37	164.10	164.65	165.25	165.67	168.32	168.32	169.65	171.39	173.10	175.65	179.21	188.65	4.51	52.05
351.00	250.44	164.11	164.66	165.26	165.68	168.33	168.33	169.66	171.40	173.11	175.66	179.22	188.65	4.51	52.05
353.96	251.51	164.12	164.67	165.27	165.69	168.34	168.34	169.67	171.41	173.12	175.67	179.23	188.65	4.51	52.05
356.00	252.58	164.13	164.68	165.28	165.70	168.35	168.35	169.68	171.42	173.13	175.68	179.24	188.65	4.51	52.05
358.88	253.65	164.14	164.69	165.29	165.71	168.36	168.36	169.69	171.43	173.14	175.69	179.25	188.65	4.51	52.05
361.00	254.72	164.15	164.70	165.30	165.72	168.37	168.37	169.70	171.44	173.15	175.70	179.26	188.65	4.51	52.05
363.96	255.79	164.16	164.71	165.31	165.73										

FREQUENCY 10.002 TERRAIN DELTA 90 FT SURFACE TYPE POOR GROUND SURFACE REFLECTION LOSS CONTRIBUTES TO VARIABILITY

AIRCRAFT ANTENNA ALTITUDE 2000 FT ABOVE MSL CLIMATE DENSITY TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED

FACILITY ANTENNA HEIGHT 20 FT ABOVE MSL TYPE BOTHTROPIC POLARIZATION CIRCULAR TYPE BOTHTROPIC POLARIZATION CIRCULAR

REFRACTIVITY EFFECTIVE EARTH RADIUS 4173 NM MINIMUM MONTHLY MEAN 200 HOURS

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

0.1 MM	FREE SPACE	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	EXP VALUE	STD DEV	EFF DIST
0.99	120.28	120.16	120.20	120.25	120.29	120.32	120.35	120.38	120.41	120.45	120.50	120.55	120.55	0.12	0.35
5.06	133.68	133.69	133.63	133.68	133.72	133.78	133.78	133.81	133.84	133.88	133.94	133.98	133.98	0.12	1.79
10.41	138.87	138.68	138.70	138.78	138.76	138.82	138.86	138.91	138.95	138.99	139.02	139.05	139.05	0.12	3.70
14.34	141.29	141.28	141.30	141.35	141.39	141.42	141.45	141.48	141.51	141.55	141.61	141.65	141.65	0.12	5.08
20.83	144.31	144.47	144.52	144.67	144.64	144.84	144.87	144.90	144.93	144.97	145.02	145.08	145.08	0.12	7.38
25.90	146.78	146.81	146.85	146.90	146.94	147.00	147.03	147.06	147.09	147.12	147.15	147.18	147.18	0.12	9.18
30.86	147.68	147.99	148.05	148.09	148.12	148.16	148.18	148.21	148.23	148.26	148.28	148.30	148.30	0.12	10.94
35.78	148.97	149.35	149.39	149.44	149.48	149.51	149.54	149.57	149.60	149.64	149.68	149.74	149.74	0.12	12.88
40.88	150.03	150.55	150.59	150.64	150.68	150.71	150.74	150.77	150.81	150.85	150.89	150.94	150.94	0.12	14.82
45.80	151.05	151.87	152.71	152.77	152.80	152.84	152.87	152.90	152.93	152.97	153.02	153.07	153.07	0.12	16.23
50.87	151.98	152.87	153.71	153.77	153.80	153.84	153.87	153.90	153.93	153.97	154.02	154.07	154.07	0.12	18.03
55.80	152.78	153.67	154.51	154.57	154.60	154.64	154.67	154.70	154.73	154.76	154.81	154.86	154.86	0.14	19.78
60.89	153.61	154.42	155.26	155.32	155.35	155.39	155.42	155.45	155.48	155.51	155.56	155.61	155.61	0.16	21.64
65.76	154.16	154.98	155.84	155.90	155.93	155.97	156.00	156.03	156.06	156.09	156.14	156.19	156.19	0.24	23.31
70.79	154.82	155.78	156.68	156.74	156.77	156.81	156.84	156.87	156.90	156.93	156.98	157.03	157.03	0.26	25.09
75.63	155.39	156.41	157.37	157.43	157.46	157.50	157.53	157.57	157.60	157.63	157.68	157.73	157.73	0.26	26.81
80.97	156.98	158.07	159.07	159.13	159.16	159.20	159.23	159.27	159.30	159.33	159.38	159.43	159.43	0.26	28.70
85.83	158.49	159.61	160.58	160.64	160.67	160.71	160.74	160.77	160.81	160.85	160.89	160.94	160.94	0.26	30.30
90.83	159.99	161.14	162.08	162.14	162.17	162.21	162.24	162.27	162.30	162.33	162.38	162.43	162.43	0.26	31.79
95.96	161.48	162.66	163.58	163.64	163.67	163.71	163.74	163.77	163.81	163.85	163.89	163.94	163.94	0.26	33.30
100.74	162.93	164.14	165.04	165.10	165.13	165.17	165.20	165.23	165.27	165.31	165.35	165.40	165.40	0.26	34.81
105.70	164.35	165.59	166.48	166.54	166.57	166.61	166.64	166.67	166.71	166.75	166.79	166.84	166.84	0.26	36.30
110.88	165.75	166.99	167.88	167.94	167.97	168.01	168.04	168.07	168.11	168.15	168.19	168.24	168.24	0.26	37.79
115.89	167.10	168.34	169.23	169.29	169.32	169.36	169.39	169.42	169.46	169.50	169.54	169.59	169.59	0.26	39.28
120.73	168.45	169.69	170.58	170.64	170.67	170.71	170.74	170.77	170.81	170.85	170.89	170.94	170.94	0.26	40.77
125.71	169.80	171.04	171.93	171.99	172.02	172.06	172.09	172.12	172.16	172.20	172.24	172.29	172.29	0.26	42.26
130.91	171.15	172.39	173.28	173.34	173.37	173.41	173.44	173.47	173.51	173.55	173.59	173.64	173.64	0.26	43.75
135.95	172.50	173.74	174.63	174.69	174.72	174.76	174.79	174.82	174.86	174.90	174.94	174.99	174.99	0.26	45.24
140.91	173.85	175.09	175.98	176.04	176.07	176.11	176.14	176.17	176.21	176.25	176.29	176.34	176.34	0.26	46.73
145.77	175.20	176.44	177.33	177.39	177.42	177.46	177.49	177.52	177.56	177.60	177.64	177.69	177.69	0.26	48.22
150.55	176.55	177.79	178.68	178.74	178.77	178.81	178.84	178.87	178.91	178.95	179.00	179.04	179.04	0.26	49.71
155.55	177.90	179.14	180.03	180.09	180.12	180.16	180.19	180.22	180.26	180.30	180.34	180.39	180.39	0.26	51.20
160.28	179.25	180.49	181.38	181.44	181.47	181.51	181.54	181.57	181.61	181.65	181.69	181.74	181.74	0.26	52.69
165.78	180.60	181.84	182.73	182.79	182.82	182.86	182.89	182.92	182.96	183.00	183.04	183.09	183.09	0.26	54.18
170.70	181.95	183.19	184.08	184.14	184.17	184.21	184.24	184.27	184.31	184.35	184.39	184.44	184.44	0.26	55.67
175.81	183.30	184.54	185.43	185.49	185.52	185.56	185.59	185.62	185.66	185.70	185.74	185.79	185.79	0.26	57.16
180.91	184.65	185.89	186.78	186.84	186.87	186.91	186.94	186.97	187.01	187.05	187.09	187.14	187.14	0.26	58.65
185.91	186.00	187.24	188.13	188.19	188.22	188.26	188.29	188.32	188.36	188.40	188.44	188.49	188.49	0.26	60.14
190.91	187.35	188.59	189.48	189.54	189.57	189.61	189.64	189.67	189.71	189.75	189.79	189.84	189.84	0.26	61.63
195.91	188.70	189.94	190.83	190.89	190.92	190.96	190.99	191.02	191.06	191.10	191.14	191.19	191.19	0.26	63.12
200.91	190.05	191.29	192.18	192.24	192.27	192.31	192.34	192.37	192.41	192.45	192.49	192.54	192.54	0.26	64.61
205.91	191.40	192.64	193.53	193.59	193.62	193.66	193.69	193.72	193.76	193.80	193.84	193.89	193.89	0.26	66.10
210.91	192.75	193.99	194.88	194.94	194.97	195.01	195.04	195.07	195.11	195.15	195.19	195.24	195.24	0.26	67.59
215.91	194.10	195.34	196.23	196.29	196.32	196.36	196.39	196.42	196.46	196.50	196.54	196.59	196.59	0.26	69.08
220.91	195.45	196.69	197.58	197.64	197.67	197.71	197.74	197.77	197.81	197.85	197.89	197.94	197.94	0.26	70.57
225.91	196.80	198.04	198.93	198.99	199.02	199.06	199.09	199.12	199.16	199.20	199.24	199.29	199.29	0.26	72.06
230.91	198.15	199.39	200.28	200.34	200.37	200.41	200.44	200.47	200.51	200.55	200.59	200.64	200.64	0.26	73.55
235.91	199.50	200.74	201.63	201.69	201.72	201.76	201.79	201.82	201.86	201.90	201.94	201.99	201.99	0.26	75.04
240.91	200.85	202.09	202.98	203.04	203.07	203.11	203.14	203.17	203.21	203.25	203.29	203.34	203.34	0.26	76.53
245.91	202.20	203.44	204.33	204.39	204.42	204.46	204.49	204.52	204.56	204.60	204.64	204.69	204.69	0.26	78.02
250.91	203.55	204.79	205.68	205.74	205.77	205.81	205.84	205.87	205.91	205.95	205.99	206.04	206.04	0.26	79.51
255.91	204.90	206.14	207.03	207.09	207.12	207.16	207.19	207.22	207.26	207.30	207.34	207.39	207.39	0.26	81.00
260.91	206.25	207.49	208.38	208.44	208.47	208.51	208.54	208.57	208.61	208.65	208.69	208.74	208.74	0.26	82.49
265.91	207.60	208.84	209.73	209.79	209.82	209.86	209.89	209.92	209.96	209.99	210.03	210.08	210.08	0.26	83.98
270.91	208.95	210.19	211.08	211.14	211.17	211.21	211.24	211.27	211.31	211.35	211.39	211.44	211.44	0.26	85.47
275.91	210.30	211.54	212.43	212.49	212.52	212.56	212.59	212.62	212.66	212.70	212.74	212.79	212.79	0.26	86.96
280.91	211.65	212.89	213.78	213.84	213.87	213.91	213.94	213.97	214.01	214.05	214.09	214.14	214.14	0.26	88.45
285.91	213.00	214.24	215.13	215.19	215.22	215.26	215.29	215.32	215.36	215.40	215.44	215.49	215.49	0.26	89.94
290.91	214.35	215.59	216.48	216.54	216.57	216.61	216.64	216.67	216.71	216.75	216.79	216.84	216.84	0.26	91.43
295.91	215.70	216.94	217.83	217.89	217.92	217.96	217.99	218.02	218.06	218.10	218.14	218.19	218.19	0.26	92.92
300.91	217.05	218.29	219.18	219.24	219.27	219.31	219.34	219.37	219.41	219.45	219.49	219.54	219.54	0.26	94.41
305.91	218.40	219.64	220.53	220.59	220.62	220.66	220.69	220.72	220.76	220.80	220.84	220.89	220.89	0.26	95.90
310.91	219.75	220.99	221.88	221.94	221.97	222.01	222.04	222.07	222.11	222.15	222.19	222.24	222.24	0.26	97.

RUN NO. 5

JOHNSON & OVERHART CUMULATIVE DISTRIBUTION DATA

TERMINAL DELTA IN 54 FT
TYPE ISOTROPIC POLARIZATION CIRCULAR
TYPE ISOTROPIC POLARIZATION CIRCULAR
TIME A VALUABILITY FOR ANTENNA FOUR LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

FREQUENCY 10 GHz
AIRCRAFT ANTENNA ALTITUDE 10000 FT ABOVE MSL
FACILITY ANTENNA HEIGHT 20 FT ABOVE MSL
REFRACTIVITY EFFECTIVE EARTH RADIUS 4421 NM

SURFACE REFLECTION LOSS CONTRIBUTES TO VARIABILITY
SURFACE TYPE POOR GROUND
CLIMATE DESERT

D (NM)	FREE SPACE	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	EXP VALUE	STD DEV	EFF DIST
1.00	132.44	132.51	132.55	132.60	132.64	132.67	132.70	132.73	132.76	132.80	132.85	132.90	0.12	0.30
5.67	135.70	135.89	136.04	136.29	136.51	136.70	136.85	137.00	137.15	137.30	137.45	137.60	0.12	1.68
9.37	136.50	136.67	136.82	136.97	137.12	137.27	137.42	137.57	137.72	137.87	138.02	138.17	0.12	2.77
14.75	137.00	137.15	137.30	137.45	137.60	137.75	137.90	138.05	138.20	138.35	138.50	138.65	0.12	4.52
24.04	137.40	137.55	137.70	137.85	138.00	138.15	138.30	138.45	138.60	138.75	138.90	139.05	0.12	5.55
30.74	137.70	137.85	138.00	138.15	138.30	138.45	138.60	138.75	138.90	139.05	139.20	139.35	0.12	7.12
35.94	138.02	138.17	138.32	138.47	138.62	138.77	138.92	139.07	139.22	139.37	139.52	139.67	0.12	9.10
40.98	138.34	138.49	138.64	138.79	138.94	139.09	139.24	139.39	139.54	139.69	139.84	139.99	0.12	10.64
45.84	138.66	138.81	138.96	139.11	139.26	139.41	139.56	139.71	139.86	140.01	140.16	140.31	0.12	12.13
50.59	138.98	139.13	139.28	139.43	139.58	139.73	139.88	140.03	140.18	140.33	140.48	140.63	0.12	13.67
55.24	139.30	139.45	139.60	139.75	139.90	140.05	140.20	140.35	140.50	140.65	140.80	140.95	0.12	15.20
59.89	139.62	139.77	139.92	140.07	140.22	140.37	140.52	140.67	140.82	140.97	141.12	141.27	0.12	16.80
64.54	139.94	140.09	140.24	140.39	140.54	140.69	140.84	140.99	141.14	141.29	141.44	141.59	0.12	18.46
69.19	140.26	140.41	140.56	140.71	140.86	141.01	141.16	141.31	141.46	141.61	141.76	141.91	0.12	20.18
73.84	140.58	140.73	140.88	141.03	141.18	141.33	141.48	141.63	141.78	141.93	142.08	142.23	0.12	21.96
78.49	140.90	141.05	141.20	141.35	141.50	141.65	141.80	141.95	142.10	142.25	142.40	142.55	0.12	23.81
83.14	141.22	141.37	141.52	141.67	141.82	141.97	142.12	142.27	142.42	142.57	142.72	142.87	0.12	25.72
87.79	141.54	141.69	141.84	141.99	142.14	142.29	142.44	142.59	142.74	142.89	143.04	143.19	0.12	27.69
92.44	141.86	142.01	142.16	142.31	142.46	142.61	142.76	142.91	143.06	143.21	143.36	143.51	0.12	29.72
97.09	142.18	142.33	142.48	142.63	142.78	142.93	143.08	143.23	143.38	143.53	143.68	143.83	0.12	31.81
101.74	142.50	142.65	142.80	142.95	143.10	143.25	143.40	143.55	143.70	143.85	144.00	144.15	0.12	33.96
106.39	142.82	142.97	143.12	143.27	143.42	143.57	143.72	143.87	144.02	144.17	144.32	144.47	0.12	36.17
111.04	143.14	143.29	143.44	143.59	143.74	143.89	144.04	144.19	144.34	144.49	144.64	144.79	0.12	38.44
115.69	143.46	143.61	143.76	143.91	144.06	144.21	144.36	144.51	144.66	144.81	144.96	145.11	0.12	40.77
120.34	143.78	143.93	144.08	144.23	144.38	144.53	144.68	144.83	144.98	145.13	145.28	145.43	0.12	43.16
124.99	144.10	144.25	144.40	144.55	144.70	144.85	145.00	145.15	145.30	145.45	145.60	145.75	0.12	45.61
129.64	144.42	144.57	144.72	144.87	145.02	145.17	145.32	145.47	145.62	145.77	145.92	146.07	0.12	48.11
134.29	144.74	144.89	145.04	145.19	145.34	145.49	145.64	145.79	145.94	146.09	146.24	146.39	0.12	50.66
138.94	145.06	145.21	145.36	145.51	145.66	145.81	145.96	146.11	146.26	146.41	146.56	146.71	0.12	53.27
143.59	145.38	145.53	145.68	145.83	145.98	146.13	146.28	146.43	146.58	146.73	146.88	147.03	0.12	55.94
148.24	145.70	145.85	146.00	146.15	146.30	146.45	146.60	146.75	146.90	147.05	147.20	147.35	0.12	58.67
152.89	146.02	146.17	146.32	146.47	146.62	146.77	146.92	147.07	147.22	147.37	147.52	147.67	0.12	61.46
157.54	146.34	146.49	146.64	146.79	146.94	147.09	147.24	147.39	147.54	147.69	147.84	147.99	0.12	64.31
162.19	146.66	146.81	146.96	147.11	147.26	147.41	147.56	147.71	147.86	148.01	148.16	148.31	0.12	67.22
166.84	146.98	147.13	147.28	147.43	147.58	147.73	147.88	148.03	148.18	148.33	148.48	148.63	0.12	70.18
171.49	147.30	147.45	147.60	147.75	147.90	148.05	148.20	148.35	148.50	148.65	148.80	148.95	0.12	73.19
176.14	147.62	147.77	147.92	148.07	148.22	148.37	148.52	148.67	148.82	148.97	149.12	149.27	0.12	76.26
180.79	147.94	148.09	148.24	148.39	148.54	148.69	148.84	148.99	149.14	149.29	149.44	149.59	0.12	79.39
185.44	148.26	148.41	148.56	148.71	148.86	149.01	149.16	149.31	149.46	149.61	149.76	149.91	0.12	82.57
190.09	148.58	148.73	148.88	149.03	149.18	149.33	149.48	149.63	149.78	149.93	150.08	150.23	0.12	85.80
194.74	148.90	149.05	149.20	149.35	149.50	149.65	149.80	149.95	150.10	150.25	150.40	150.55	0.12	89.09
199.39	149.22	149.37	149.52	149.67	149.82	149.97	150.12	150.27	150.42	150.57	150.72	150.87	0.12	92.44
204.04	149.54	149.69	149.84	149.99	150.14	150.29	150.44	150.59	150.74	150.89	151.04	151.19	0.12	95.85
208.69	149.86	149.99	150.12	150.25	150.38	150.51	150.64	150.77	150.90	151.03	151.16	151.29	0.12	99.32
213.34	150.18	150.31	150.44	150.57	150.70	150.83	150.96	151.09	151.22	151.35	151.48	151.61	0.12	102.85
217.99	150.50	150.63	150.76	150.89	151.02	151.15	151.28	151.41	151.54	151.67	151.80	151.93	0.12	106.44
222.64	150.82	150.95	151.08	151.21	151.34	151.47	151.60	151.73	151.86	151.99	152.12	152.25	0.12	110.09
227.29	151.14	151.27	151.40	151.53	151.66	151.79	151.92	152.05	152.18	152.31	152.44	152.57	0.12	113.80
231.94	151.46	151.59	151.72	151.85	151.98	152.11	152.24	152.37	152.50	152.63	152.76	152.89	0.12	117.57
236.59	151.78	151.91	152.04	152.17	152.30	152.43	152.56	152.69	152.82	152.95	153.08	153.21	0.12	121.40
241.24	152.10	152.23	152.36	152.49	152.62	152.75	152.88	153.01	153.14	153.27	153.40	153.53	0.12	125.28
245.89	152.42	152.55	152.68	152.81	152.94	153.07	153.20	153.33	153.46	153.59	153.72	153.85	0.12	129.21
250.54	152.74	152.87	153.00	153.13	153.26	153.39	153.52	153.65	153.78	153.91	154.04	154.17	0.12	133.19
255.19	153.06	153.19	153.32	153.45	153.58	153.71	153.84	153.97	154.10	154.23	154.36	154.49	0.12	137.22
259.84	153.38	153.51	153.64	153.77	153.90	154.03	154.16	154.29	154.42	154.55	154.68	154.81	0.12	141.31
264.49	153.70	153.83	153.96	154.09	154.22	154.35	154.48	154.61	154.74	154.87	155.00	155.13	0.12	145.46
269.14	154.02	154.15	154.28	154.41	154.54	154.67	154.80	154.93	155.06	155.19	155.32	155.45	0.12	149.66
273.79	154.34	154.47	154.60	154.73	154.86	154.99	155.12	155.25	155.38	155.51	155.64	155.77	0.12	153.91
278.44	154.66	154.79	154.92	155.05	155.18	155.31	155.44	155.57	155.70	155.83	155.96	156.09	0.12	158.22
283.09	154.98	155.11	155.24	155.37	155.50	155.63	155.76	155.89	156.02	156.15	156.28	156.41	0.12	162.59
287.74	155.30	155.43	155.56	155.69	155.82	155.95	156.08	156.21	156.34	156.47	156.60	156.73	0.12	167.02
292.39	155.62	155.75	155.88	156.01	156.14	156.27	156.40	156.53	156.66	156.79	156.92	157.05	0.12	171.51
297.04	155.94	156.07	156.20	156.33	156.46	156.59	156.72	156.85	156.98	157.11	157.24	157.37	0.12	176.06
301.69	156.26	156.39	156.52	156.65	156.78	156.91	157.04	157.17	157.30	157.43	157.56	157.69	0.12	180.67
306.34	156.58	156.71	156.84	156.97	157.10	157.23	157.36	157.49	157.62	157.75	157.88	158.01	0.12	185.34
310.99	156.90	157.03	157.16	157.29	157.42	157.55	157.68	157.81	157.94	158.07	158.20	158.33	0.12	190.07
315.64	157.22	157.35	157.48	157.61	157.74	157.87	158.00	158.13	158.26	158.39	158.52	158.65	0.12	194.86
320.29	157.54	157.67	157.80	157.93	158.06	158.19	158.32	158.45	158.58	158.71	158.84	158.97	0.12	199.71
324.94	157.86	157.99	158.12	158.25	158.38	158.51	158.64	158.77	158.90	159.03	159.16	159.29	0.12	204.62
329.59	158.18	158.31	158.44	158.57	158.70	158.83	158.96	159.09	159.22	159.35	159.48	159.61	0.12	209.59
334.24	158.50	158.63	158.76	158.89	159.02	159.15	159.28	159.41	159.54	159.67	159.80	159.93	0.12	214.62</

FREQUENCY 10.02Z
 AIRCRAFT ANTENNA ALTITUDE 4000 FT ABOVE MSL
 FACILITY ANTENNA HEIGHT 20.0 FT ABOVE MSL
 REFRACTIVITY EFFECTIVE EARTH RADIUS 4200 NM

JOHNSON & GERRARD CUMULATIVE DISTRIBUTION DATA
 TERRAIN DELTA IN 50 FT
 TYPE BIOTROPIC POLARIZATION CIRCULAR
 TYPE BC TOPIC POLARIZATION CIRCULAR
 MINIMUM MONTHLY MEAN 20 HOURS

SURFACE REFLECTION LOSS
 CONTRIBUTES TO VARIABILITY
 TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)															
D (NM)	FREE SPACE	5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	95%	F-P VALUE	STD DEV	EFF DIST
1.00	139.56	139.43	139.48	139.52	139.56	139.58	139.61	139.64	139.68	139.71	139.77	139.81	139.82	0.12	0.22
1.05	139.56	139.44	139.48	139.52	139.56	139.58	139.61	139.64	139.68	139.71	139.77	139.81	139.83	0.12	1.23
1.10	141.47	141.36	141.40	141.45	141.49	141.52	141.55	141.58	141.62	141.65	141.71	141.76	141.78	0.12	2.30
1.15	142.88	142.87	142.81	142.86	142.79	142.73	142.78	142.76	142.79	142.86	142.91	142.98	142.78	0.12	3.49
1.20	144.22	144.18	144.20	144.25	144.29	144.32	144.35	144.38	144.41	144.43	144.50	144.55	144.36	0.12	4.65
1.25	146.38	146.32	146.38	146.41	146.45	146.48	146.51	146.54	146.58	146.61	146.87	146.71	146.82	0.12	5.81
1.30	147.78	147.77	147.81	147.86	147.90	147.93	147.96	147.99	148.03	148.06	148.12	148.18	147.96	0.12	6.97
1.35	148.59	148.60	148.64	148.69	148.73	148.76	148.79	148.82	148.85	148.89	148.94	148.98	148.79	0.12	8.13
1.40	149.52	149.52	149.56	149.61	149.65	149.68	149.71	149.74	149.77	149.81	149.87	149.91	149.71	0.12	9.29
1.45	150.50	150.57	150.61	150.66	150.69	150.72	150.76	150.79	150.82	150.86	150.91	150.95	150.78	0.12	10.45
1.50	151.66	151.74	151.80	151.85	151.89	151.92	151.95	151.98	152.02	152.06	152.11	152.16	151.95	0.12	11.61
1.55	162.82	162.89	162.93	162.98	163.02	163.05	163.08	163.12	163.16	163.19	163.23	163.27	163.08	0.12	12.77
1.60	163.58	163.68	163.70	163.76	163.80	163.83	163.86	163.89	163.92	163.95	164.00	164.04	163.85	0.12	13.93
1.65	164.77	164.81	164.83	164.88	164.92	164.95	164.98	165.01	165.04	165.08	165.14	165.18	164.98	0.12	15.09
1.70	165.92	165.97	165.99	166.03	166.07	166.10	166.13	166.16	166.19	166.23	166.28	166.32	166.12	0.12	16.25
1.75	166.61	166.65	166.68	166.72	166.76	166.79	166.82	166.85	166.88	166.91	166.96	167.00	166.80	0.12	17.41
1.80	167.89	167.93	167.95	168.00	168.04	168.07	168.10	168.13	168.16	168.19	168.24	168.28	168.08	0.12	18.57
1.85	168.51	168.55	168.57	168.61	168.65	168.68	168.71	168.74	168.77	168.81	168.87	168.91	168.71	0.12	19.73
1.90	169.53	169.58	169.60	169.64	169.68	169.71	169.74	169.77	169.81	169.85	169.91	169.95	169.75	0.12	20.89
1.95	170.70	170.75	170.77	170.82	170.86	170.89	170.92	170.95	170.98	171.02	171.08	171.12	170.92	0.12	22.05
2.00	171.91	171.96	171.98	172.03	172.07	172.10	172.13	172.16	172.19	172.23	172.30	172.34	172.14	0.12	23.21
2.05	173.18	173.23	173.25	173.30	173.34	173.37	173.40	173.43	173.46	173.50	173.58	173.62	173.42	0.12	24.37
2.10	174.53	174.58	174.60	174.65	174.69	174.72	174.75	174.78	174.81	174.85	174.94	174.98	174.78	0.12	25.53
2.15	175.98	176.03	176.05	176.10	176.14	176.17	176.20	176.23	176.26	176.30	176.40	176.44	176.24	0.12	26.69
2.20	177.57	177.62	177.64	177.69	177.73	177.76	177.79	177.82	177.85	177.89	178.02	178.06	177.86	0.12	27.85
2.25	179.31	179.36	179.38	179.43	179.47	179.50	179.53	179.56	179.59	179.63	179.78	179.82	179.62	0.12	29.01
2.30	181.13	181.18	181.20	181.25	181.29	181.32	181.35	181.38	181.41	181.45	181.63	181.67	181.47	0.12	30.17
2.35	183.08	183.13	183.15	183.20	183.24	183.27	183.30	183.33	183.36	183.40	183.62	183.66	183.46	0.12	31.33
2.40	185.16	185.21	185.23	185.28	185.32	185.35	185.38	185.41	185.44	185.48	185.75	185.79	185.59	0.12	32.49
2.45	187.33	187.38	187.40	187.45	187.49	187.52	187.55	187.58	187.61	187.65	187.97	188.01	187.81	0.12	33.65
2.50	189.64	189.69	189.71	189.76	189.80	189.83	189.86	189.89	189.92	189.96	190.33	190.37	189.97	0.12	34.81
2.55	192.09	192.14	192.16	192.21	192.25	192.28	192.31	192.34	192.37	192.41	192.83	192.87	192.47	0.12	35.97
2.60	194.68	194.73	194.75	194.80	194.84	194.87	194.90	194.93	194.96	195.00	195.47	195.51	195.17	0.12	37.13
2.65	197.39	197.44	197.46	197.51	197.55	197.58	197.61	197.64	197.67	197.71	198.23	198.27	197.87	0.12	38.29
2.70	200.22	200.27	200.29	200.34	200.38	200.41	200.44	200.47	200.50	200.54	201.15	201.19	200.79	0.12	39.45
2.75	203.19	203.24	203.26	203.31	203.35	203.38	203.41	203.44	203.47	203.51	204.17	204.21	203.87	0.12	40.61
2.80	206.31	206.36	206.38	206.43	206.47	206.50	206.53	206.56	206.59	206.63	207.35	207.39	206.99	0.12	41.77
2.85	209.58	209.63	209.65	209.70	209.74	209.77	209.80	209.83	209.86	209.90	210.67	210.71	210.37	0.12	42.93
2.90	213.03	213.08	213.10	213.15	213.19	213.22	213.25	213.28	213.31	213.35	214.17	214.21	213.87	0.12	44.09
2.95	216.68	216.73	216.75	216.80	216.84	216.87	216.90	216.93	216.96	217.00	217.87	217.91	217.57	0.12	45.25
3.00	220.51	220.56	220.58	220.63	220.67	220.70	220.73	220.76	220.79	220.83	221.75	221.79	221.41	0.12	46.41
3.05	224.54	224.59	224.61	224.66	224.70	224.73	224.76	224.79	224.83	224.87	225.85	225.89	225.49	0.12	47.57
3.10	228.78	228.83	228.85	228.90	228.94	228.97	229.00	229.03	229.07	229.11	229.15	229.19	228.99	0.12	48.73
3.15	233.25	233.30	233.32	233.37	233.41	233.44	233.47	233.50	233.54	233.58	234.65	234.69	234.29	0.12	49.89
3.20	237.97	238.02	238.04	238.09	238.13	238.16	238.19	238.23	238.27	238.31	239.43	239.47	239.07	0.12	51.05
3.25	242.95	243.00	243.02	243.07	243.11	243.14	243.17	243.21	243.25	243.29	244.45	244.49	244.09	0.12	52.21
3.30	248.19	248.24	248.26	248.31	248.35	248.38	248.41	248.45	248.49	248.53	249.75	249.79	249.39	0.12	53.37
3.35	253.69	253.74	253.76	253.81	253.85	253.88	253.91	253.95	253.99	254.03	255.31	255.35	254.95	0.12	54.53
3.40	259.45	259.50	259.52	259.57	259.61	259.64	259.67	259.71	259.75	259.79	261.17	261.21	260.87	0.12	55.69
3.45	265.48	265.53	265.55	265.60	265.64	265.67	265.70	265.74	265.78	265.82	267.25	267.29	266.89	0.12	56.85
3.50	271.81	271.86	271.88	271.93	271.97	272.00	272.03	272.07	272.11	272.15	273.65	273.69	273.29	0.12	58.01
3.55	278.47	278.52	278.54	278.59	278.63	278.66	278.69	278.73	278.77	278.81	280.35	280.39	279.99	0.12	59.17
3.60	285.48	285.53	285.55	285.60	285.64	285.67	285.70	285.74	285.78	285.82	287.43	287.47	287.07	0.12	60.33
3.65	292.87	292.92	292.94	292.99	293.03	293.06	293.09	293.13	293.17	293.21	294.87	294.91	294.57	0.12	61.49
3.70	299.68	299.73	299.75	299.80	299.84	299.87	299.90	299.94	299.98	300.02	301.73	301.77	301.39	0.12	62.65
3.75	306.95	307.00	307.02	307.07	307.11	307.14	307.17	307.21	307.25	307.29	309.05	309.09	308.69	0.12	63.81
3.80	314.63	314.68	314.70	314.75	314.79	314.82	314.85	314.89	314.93	314.97	316.77	316.81	316.41	0.12	64.97
3.85	322.78	322.83	322.85	322.90	322.94	322.97	323.00	323.04	323.08	323.12	324.97	325.01	324.61	0.12	66.13
3.90	331.35	331.40	331.42	331.47	331.51	331.54	331.57	331.61	331.65	331.69	333.57	333.61	333.21	0.12	67.29
3.95	340.39	340.44	340.46	340.51	340.55	340.58	340.61	340.65	340.69	340.73	342.65	342.69	342.29	0.12	68.45
4.00	349.85	349.90	349.92	349.97	350.01	350.04	350.07	350.11	350.15	350.19	352.15	352.19	351.79	0.12	69.61
4.05	359.78	359.83	359.85	359.90	359.94	359.97	359.99	360.03	360.07	360.11	362.11	362.15	361.75	0.12	70.77
4.10	370.13	370.18	370.20	370.25	370.29	370.32	370.35	370.39	370.43	370.47	372.53	372.57	372.17	0.12	71.93
4.15	380.95	381.00	381.02	381.07	381.11	381.14	381.17	381.21	381.25	381.29	383.41	383.45	383.05	0.12	73.09
4.20	392.21	392.26	392.28	392.33	392.37	392.40	392.43	392.47	392.51	392.55	394.71	394.75	394.35	0.12	74.25
4.25	403.97	404.02	404.04	404.09	404.13	404.16	404.19	404.23	404.27	404.31	406.51	406.55	406.15	0.12	75.41
4.30	416.29	416.34	416.36	416.41	416.45	416.48	416.51	416.55	416.59	416.63	418.89	418.93	418.53	0.12	76.57
4.35	429.11	429.16	429.18	429.23	429.27	429.30	429.33	429.37	429.41	429.45	431.77	431.81	431.47	0.12	77.73
4.40	442.49	442.54	442.56	442.61	442.65	442.68	442.71	442.75	442.79	442.83	445.21	445.25	444.89	0.12	78.89
4.45	456.48	456.53	456.55	456.60	456.64	456.67	456.70	456.74	456.78	456.82	459.25	459.29	458.89	0.12	80.05

APPENDIX D **COMPUTER PRINTOUTS OF BASIC TRANSMISSION LOSS FOR VARIOUS CLIMATES**

This appendix contains the Johnson-Gierhart program printouts of basic transmission loss for the climate runs of section 3.1 in volume 1. The run numbers are identified below.

Volume 2	Reference in Volume 1					Volume 2
Run No.	Table	Figure	Δh (ft)	Lobing	Climate	Page
7	3-1	3-1	0	Determines Median	Continental All-Year	D-3
8	3-1	3-2	0	Determines Median	Equatorial	D-5
9	3-1	3-3	0	Determines Median	Continental Subtropical	D-7
10	3-1	3-4	0	Determines Median	Maritime Subtropical	D-9
11	3-1	3-5	0	Determines Median	Desert	D-11
12	3-1	3-6	0	Determines Median	Continental Temperate	D-13
13	3-1	3-7	0	Determines Median	Maritime Temperate Overland	D-15
14	3-1	3-8	0	Determines Median	Maritime Temperate Overseas	D-17
15	3-2	3-1	0	Contributes to Variability	Continental All-Year	D-19
16	3-2	3-2	0	Contributes to Variability	Equatorial	D-21
17	3-2	3-3	0	Contributes to Variability	Continental Subtropical	D-23
18	3-2	3-4	0	Contributes to Variability	Maritime Subtropical	D-25
19	3-2	3-5	0	Contributes to Variability	Desert	D-27
20	3-2	3-6	0	Contributes to Variability	Continental Temperate	D-29
21	3-2	3-7	0	Contributes to Variability	Maritime Temperate Overland	D-31
22	3-2	3-8	0	Contributes to Variability	Maritime Temperate Overseas	D-33
23	3-3	3-15, 3-16	50	Determines Median	Continental All-Year	D-35
24	3-3	3-15, 3-16	50	Determines Median	Equatorial	D-37
25	3-3	3-15, 3-16	50	Determines Median	Continental Subtropical	D-39

Volume 2		Reference in Volume 1				Volume 2
Run No.	Table	Figure	Δh (ft)	Lobing	Climate	Page
26	3-3	3-15, 3-16	50	Determines Median	Maritime Subtropical	D-41
27	3-3	3-15, 3-16	50	Determines Median	Desert	D-43
28	3-3	3-15, 3-16	50	Determines Median	Continental Temperate	D-45
29	3-3	3-15, 3-16	50	Determines Median	Maritime Temperate Overland	D-47
30	3-3	3-15, 3-16	50	Determines Median	Maritime Temperate Overseas	D-49
31	3-4	3-17, 3-18	50	Contributes to Variability	Continental All-Year	D-51
32	3-4	3-17, 3-18	50	Contributes to Variability	Equatorial	D-53
33	3-4	3-17, 3-18	50	Contributes to Variability	Continental Subtropical	D-55
34	3-4	3-17, 3-18	50	Contributes to Variability	Maritime Subtropical	D-57
35	3-4	3-17, 3-18	50	Contributes to Variability	Desert	D-59
36	3-4	3-17, 3-18	50	Contributes to Variability	Continental Temperate	D-61
37	3-4	3-17, 3-18	50	Contributes to Variability	Maritime Temperate Overland	D-63
38	3-4	3-17, 3-18	50	Contributes to Variability	Maritime Temperate Overseas	D-65

RUN NO. 7

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NM

TERRAIN DELTA: 0 FT

CLIMATE: CONTINENTAL ALL YEAR (0)

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 301 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NM)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.66	135.69	134.76	135.78	136.94	135.82	0.85	1.88
9.39	138.51	136.78	138.63	140.98	138.79	1.64	2.79
15.23	141.98	139.49	142.17	146.00	142.53	2.56	4.53
18.74	143.61	140.85	143.83	148.31	144.30	2.93	5.57
24.10	145.67	142.84	145.95	151.15	146.54	3.35	7.17
30.72	147.69	144.49	148.05	153.83	148.74	3.68	9.14
35.98	149.03	145.77	149.45	155.53	150.20	3.85	10.70
40.99	150.14	146.86	150.62	156.92	151.41	3.97	12.19
45.86	151.10	147.82	151.64	158.11	152.46	4.07	13.64
50.68	151.96	148.68	152.65	159.18	153.41	4.14	15.07
55.95	152.81	149.55	153.47	160.21	154.35	4.21	16.64
60.49	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.77	154.20	150.99	154.92	161.87	155.89	4.31	19.66
70.81	154.84	151.65	155.70	162.63	156.80	4.34	21.06
75.92	155.44	152.29	156.37	163.35	157.28	4.38	22.58
80.77	155.97	152.86	156.97	164.00	157.88	4.40	24.02
85.87	156.50	153.44	157.56	164.64	158.49	4.43	25.53
90.88	156.98	153.96	158.12	165.22	159.04	4.45	26.96
95.97	157.47	154.50	158.69	165.82	159.61	4.48	28.54
100.95	157.90	154.98	159.20	166.37	160.12	4.50	30.02
102.31	158.02	153.16	153.80	164.43	153.80	0.50	30.42
103.89	158.16	156.17	156.94	167.72	156.94	0.60	30.89
105.62	158.29	178.64	179.44	180.37	179.45	0.72	31.38
106.00	158.33	165.90	166.84	167.81	166.86	0.75	31.52
107.18	158.42	156.20	157.23	158.32	157.25	0.83	31.87
108.89	158.58	153.21	154.38	155.62	154.40	0.94	32.38
110.64	158.70	156.21	157.53	168.93	157.56	1.05	32.90
111.00	158.73	157.82	159.17	160.60	160.20	1.08	33.01
112.44	158.84	179.43	180.90	182.47	180.93	1.19	33.43
114.28	158.98	156.17	157.82	159.56	157.85	1.32	33.98
116.00	159.11	153.13	154.97	156.88	154.99	1.46	34.49
116.17	159.12	153.10	154.96	156.88	154.98	1.48	34.54
118.11	159.26	155.99	158.10	160.22	158.10	1.55	35.12
120.10	159.41	180.07	182.44	184.77	182.43	1.64	35.71
121.00	159.47	162.07	164.66	166.99	164.54	1.92	35.98
122.14	159.55	155.74	158.38	160.92	158.35	2.03	36.32
124.23	159.70	152.94	155.62	158.27	155.68	2.08	36.94
126.00	159.82	154.51	157.59	160.61	157.64	2.34	37.47
126.38	159.85	155.55	158.68	161.63	158.62	2.37	37.58
128.59	160.00	180.80	184.14	187.29	184.08	2.54	38.24
130.85	160.16	155.45	159.00	162.34	158.94	2.69	38.91
131.00	160.18	155.03	158.59	161.95	158.53	2.70	38.95
133.17	160.30	153.19	156.16	159.69	156.33	2.64	39.60
135.66	160.46	155.41	160.33	163.05	159.27	2.98	40.31
136.00	160.49	156.85	160.80	164.55	160.74	3.01	40.44
138.00	160.61	161.96	166.06	169.97	166.00	3.13	41.04
140.51	160.77	155.40	159.69	163.79	151.63	3.28	41.78
141.00	160.80	154.27	158.60	162.73	158.54	3.31	41.93
143.08	160.93	153.49	156.86	161.16	157.15	3.00	42.55
145.72	161.09	155.40	160.05	164.53	160.00	3.57	43.33
146.00	161.10	156.17	160.84	165.34	160.79	3.58	43.41

148.43	161.25	183.40	168.23	192.90	198.18	3.71	44.14
151.00	161.39	155.94	160.95	165.81	160.90	3.85	44.90
151.20	161.41	155.41	160.43	165.30	160.39	3.86	44.96
154.05	161.57	153.83	157.62	162.70	158.02	3.48	45.81
155.99	161.68	154.23	159.01	164.22	159.14	3.90	46.39
156.97	161.73	155.42	160.83	166.11	160.79	4.18	46.68
159.96	161.89	185.08	190.68	196.18	190.65	4.34	47.57
160.99	161.95	164.01	169.68	175.26	169.65	4.39	47.87
163.03	162.06	155.43	161.24	166.97	161.22	4.51	48.48
166.00	162.22	154.17	168.44	164.40	158.96	4.01	49.36
166.18	162.22	154.17	158.44	164.41	158.97	4.02	49.41
169.40	162.39	155.44	161.66	167.88	161.66	4.86	50.37
170.99	162.47	160.54	166.87	173.21	166.87	4.95	50.85
172.70	162.56	186.04	193.38	199.85	193.39	5.05	51.35
176.00	162.72	155.61	162.27	168.99	162.29	5.23	52.33
176.08	162.73	155.44	162.11	168.84	162.13	5.23	52.36
179.54	162.90	154.50	151.33	166.36	160.02	4.66	53.39
180.99	162.97	154.67	159.89	167.06	160.50	4.86	53.82
183.09	163.07	155.44	162.57	169.95	162.65	5.67	54.44
185.99	163.20	168.52	175.86	183.51	175.96	5.86	55.31
186.77	163.24	188.48	195.86	203.59	195.97	5.90	55.52
190.4	163.41	155.43	163.06	171.16	163.21	6.15	56.63
191	163.43	155.21	162.21	170.37	162.57	5.93	56.79
194.25	163.58	154.64	160.31	168.87	161.21	5.60	57.76
195.99	163.66	154.78	160.98	169.74	161.78	5.87	58.28
198.14	163.75	155.29	163.60	172.88	163.84	6.80	58.92
201.00	163.88	165.18	173.78	183.13	174.02	7.01	59.77
202.16	163.93	185.73	194.38	203.76	194.61	7.05	60.11
208.00	164.09	155.88	164.71	174.18	164.91	7.15	61.26
208.29	164.10	155.59	164.25	173.72	164.50	7.08	61.34
210.66	164.28	155.23	161.72	171.30	162.58	6.32	62.67
211.00	164.30	155.28	161.80	171.39	162.76	6.33	62.74
213.59	164.40	155.99	163.46	173.12	164.14	6.71	63.51
215.20	164.47	156.65	165.55	175.25	165.80	7.27	63.99
216.00	164.50	157.61	166.91	176.63	167.04	7.43	64.23
216.22	164.51	158.02	167.33	177.05	167.46	7.44	64.30
216.93	164.54	159.41	168.76	178.51	168.88	7.46	64.51
217.47	164.56	160.50	169.88	179.64	170.00	7.47	64.67
217.89	164.58	161.33	170.73	180.50	170.85	7.49	64.79
218.23	164.59	161.95	171.37	181.15	171.48	7.50	64.89
218.51	164.60	162.39	171.83	181.63	171.94	7.52	64.98
219.21	164.63	163.11	172.61	182.44	172.71	7.55	65.18
219.63	164.64	164.15	173.67	183.50	173.77	7.56	65.31
221.00	164.70	167.53	177.10	186.97	177.19	7.59	65.72
223.10	164.78	172.71	182.36	192.28	182.45	7.65	
226.00	164.89	183.41	193.18	203.18	193.25	7.72	
227.00	164.93	187.10	196.91	206.93	196.98	7.75	
228.00	164.97	190.79	200.64	210.69	200.70	7.77	
229.00	165.01	193.42	203.31	213.37	203.36	7.80	
230.00	165.05	194.96	204.89	214.98	204.94	7.82	
231.00	165.08	196.35	206.32	216.43	206.36	7.84	

RUN NO. 8

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA d: 0 FT

CLIMATE: EQUATORIAL (1)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST LIT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 360 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.62	135.66	134.71	135.75	136.93	135.80	0.87	1.67
9.45	138.56	136.78	138.68	141.11	138.85	1.70	2.81
15.09	141.91	139.40	142.10	145.98	142.47	2.59	4.49
18.72	143.60	140.82	143.83	148.37	144.31	2.87	5.57
24.39	145.76	142.71	146.06	151.35	146.66	3.41	7.25
30.67	147.68	144.47	148.04	153.67	148.74	3.71	9.12
35.93	149.02	145.76	149.45	155.56	150.20	3.87	10.68
40.90	150.12	146.84	150.61	156.94	151.41	3.99	12.16
45.96	151.12	147.84	151.67	158.18	152.51	4.09	13.67
50.67	151.95	148.69	152.57	159.21	153.43	4.16	15.07
55.80	152.78	149.55	153.47	160.23	154.35	4.22	16.59
60.47	153.47	150.26	154.22	161.05	155.12	4.27	17.98
65.91	154.22	151.03	155.04	161.94	155.94	4.31	19.60
70.81	154.84	151.69	155.74	162.69	156.65	4.35	21.05
75.85	155.43	152.33	156.42	163.41	157.32	4.38	22.56
80.77	155.97	152.91	157.02	164.05	157.93	4.41	24.02
85.81	156.50	153.49	157.63	164.69	158.54	4.43	25.52
90.65	156.97	154.02	158.19	165.28	159.11	4.45	26.96
95.99	157.47	154.59	158.78	165.91	159.70	4.48	28.54
100.94	157.90	155.09	159.31	166.47	160.20	4.50	30.02
102.42	158.03	155.32	159.92	166.58	160.34	0.49	30.46
104.08	158.17	155.35	159.98	166.89	160.47	0.60	30.95
105.79	158.31	155.75	160.61	167.64	160.64	0.71	31.46
106.00	158.33	155.89	160.61	167.64	160.64	0.72	31.52
107.54	158.45	156.44	157.43	168.53	160.77	0.82	31.98
109.35	158.60	156.51	158.61	169.86	160.86	0.92	32.52
111.00	158.73	156.89	159.10	169.49	160.94	1.02	33.01
111.20	158.74	156.57	159.79	169.21	160.85	1.03	33.07
113.10	158.89	159.89	161.22	169.79	161.29	1.14	33.63
115.06	159.04	156.74	158.20	169.93	160.28	1.25	34.21
115.99	159.11	154.56	156.08	169.08	156.17	1.30	34.49
117.07	159.19	153.83	155.41	169.31	155.51	1.36	34.81
119.14	159.34	156.93	158.64	160.71	158.75	1.42	35.43
121.00	159.47	173.95	175.17	177.40	175.30	1.58	35.98
121.27	159.49	181.24	183.08	185.33	183.21	1.60	36.06
123.45	159.65	157.13	159.10	161.53	159.24	1.72	36.71
125.70	159.80	154.23	156.32	158.93	156.48	1.84	37.38
126.00	159.82	154.29	156.39	159.03	155.56	1.86	37.47
126.01	159.86	157.33	159.54	162.34	159.73	1.96	38.07
130.39	160.12	182.73	185.08	189.06	185.28	2.08	38.77
131.00	160.16	168.43	170.81	173.83	171.01	2.11	38.95
132.84	160.28	157.53	159.98	163.13	160.20	2.20	39.50
135.35	160.45	154.63	157.20	160.52	157.43	2.31	40.25
135.99	160.49	154.83	157.42	160.79	157.66	2.34	40.44
137.94	160.61	157.74	160.42	163.93	160.68	2.42	41.02
140.50	160.77	184.42	187.21	190.90	187.49	2.54	41.81
141.00	160.80	173.24	176.03	179.76	176.32	2.56	41.93
143.33	160.94	157.96	160.86	164.74	161.17	2.66	42.62
146.00	161.10	155.05	158.07	162.13	158.40	2.77	43.41
146.14	161.11	155.05	158.08	162.14	158.40	2.78	43.46
149.03	161.28	158.17	161.31	165.56	161.66	2.90	44.32

150.99	161.39	166.79	170.01	174.40	170.37	2.98	44.90
152.01	161.45	166.29	169.55	174.01	169.93	3.03	45.20
155.06	161.62	158.38	161.77	166.43	162.17	3.16	46.11
156.00	161.68	156.79	160.22	164.93	160.62	3.20	46.39
158.20	161.80	155.47	150.00	163.86	159.42	3.29	47.04
160.99	161.95	157.74	161.38	166.43	161.82	3.41	47.87
161.43	161.97	158.59	162.24	167.32	162.69	3.43	48.00
164.75	162.15	188.39	162.18	167.48	162.65	3.57	48.99
165.99	162.22	166.66	170.49	175.88	170.98	3.62	49.36
168.16	162.33	158.81	162.73	168.28	163.24	3.72	50.01
170.99	162.47	155.98	160.02	165.77	160.55	3.84	50.85
171.67	162.51	155.90	159.97	165.77	160.51	3.88	51.05
175.26	162.69	158.98	163.23	169.30	163.79	4.05	52.12
176.00	162.72	160.60	164.88	171.01	165.46	4.09	52.33
178.96	162.87	190.65	195.08	201.43	195.68	4.23	53.22
180.99	162.97	163.83	168.35	174.84	168.96	4.33	53.82
182.75	163.05	159.13	163.74	170.38	164.37	4.42	54.34
185.99	163.20	156.27	161.02	167.97	161.71	4.60	55.31
186.65	163.23	156.21	160.99	168.00	161.69	4.64	55.50
190.65	163.42	159.32	164.27	171.64	165.02	4.85	56.69
191.00	163.43	159.95	174.93	172.33	165.68	4.87	56.80
194.75	163.60	192.65	197.86	205.62	198.65	5.10	57.91
195.99	163.66	168.98	174.30	182.20	175.10	5.20	58.28
198.96	163.79	159.24	164.82	173.08	165.65	5.44	59.16
200.99	163.87	156.95	162.71	171.21	163.57	5.61	59.77
203.28	163.97	156.12	162.10	170.92	162.99	5.82	60.45
205.98	164.09	157.15	163.93	172.47	164.25	6.02	61.25
207.71	164.16	159.19	165.41	174.58	166.33	6.05	61.76
211.00	164.30	169.61	175.97	185.22	176.87	6.14	62.74
212.27	164.35	190.57	198.98	206.26	197.88	6.17	63.12
216.00	164.50	161.12	167.66	177.03	168.54	6.25	64.23
216.97	164.54	159.54	166.11	175.50	166.99	6.27	64.52
221.00	164.70	156.89	163.58	173.06	164.45	6.35	65.72
221.85	164.73	156.92	163.60	173.10	164.48	6.36	65.97
225.28	164.87	158.54	165.35	174.96	166.22	6.45	66.99
228.00	164.89	159.22	166.07	175.70	166.94	6.47	67.20
227.10	164.94	160.54	167.45	177.11	168.31	6.50	67.53
228.26	164.98	162.28	169.25	178.94	170.10	6.54	67.87
229.06	165.01	163.70	170.71	180.42	171.55	6.56	68.11
229.67	165.03	164.82	171.85	181.59	172.70	6.58	68.29
230.14	165.05	165.68	172.73	182.48	173.57	6.59	68.43
230.52	165.06	166.33	173.40	183.16	174.24	6.60	68.55
230.83	165.08	166.81	173.89	183.66	174.73	6.61	68.64
231.00	165.08	167.03	174.12	183.90	174.96	6.62	68.69
231.63	165.11	167.60	174.74	184.55	175.57	6.65	68.88
232.09	165.12	168.63	175.78	185.60	176.61	6.66	69.02
235.93	165.27	177.23	184.49	194.42	185.32	6.74	
238.00	165.34	182.04	189.52	199.62	190.34	6.89	
239.00	165.38	184.32	191.95	202.13	192.75	6.98	
240.00	165.41	186.53	194.27	204.52	195.05	7.06	
241.00	165.45	188.37	196.20	206.53	196.98	7.12	
242.00	165.49	189.97	197.86	208.27	198.65	7.17	
243.00	165.52	191.28	199.33	209.80	200.08	7.26	
244.00	165.56	192.45	200.64	211.19	201.38	7.34	

RUN NO. 9

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: CONTINENTAL, SUBTROPICAL (2)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.65	135.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.96	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.61	156.92	151.41	3.98	12.18
45.80	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.68	152.56	159.17	153.41	4.15	15.07
55.91	152.80	149.55	153.47	160.21	154.35	4.22	16.63
60.48	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.79	154.20	150.99	155.00	161.88	155.90	4.31	19.56
70.81	154.84	151.65	155.70	162.64	156.60	4.34	21.06
75.91	155.44	152.29	156.37	163.36	157.28	4.38	22.57
80.77	155.97	152.86	156.98	164.00	157.89	4.40	24.02
85.85	156.50	153.44	157.58	164.64	158.49	4.43	25.53
90.67	156.97	153.96	158.12	165.22	159.04	4.45	26.96
95.97	157.47	154.50	158.69	165.82	159.61	4.48	28.54
100.94	157.90	154.98	159.20	166.37	160.12	4.50	30.02
102.41	158.03	153.12	153.81	154.50	153.81	0.54	30.45
104.01	158.16	155.13	156.95	157.80	156.96	0.65	30.93
105.66	158.30	178.49	179.45	180.45	179.46	0.77	31.42
106.00	158.33	168.69	169.67	170.71	169.69	0.79	31.52
107.35	158.44	156.15	157.25	158.41	157.27	0.88	31.92
109.08	158.58	153.15	154.40	155.73	154.42	1.01	32.44
110.86	158.72	156.13	157.55	159.06	157.58	1.14	32.97
111.00	158.73	156.68	158.11	159.63	158.14	1.15	33.01
112.69	158.86	179.33	180.92	182.63	180.96	1.29	33.51
114.56	159.00	156.02	157.84	159.76	157.87	1.46	34.07
115.99	159.11	153.11	155.12	157.22	155.15	1.61	34.49
116.49	159.14	152.90	154.98	157.15	155.01	1.66	34.64
118.46	159.29	155.73	158.12	160.57	158.14	1.89	35.23
120.49	159.44	179.74	182.47	185.21	182.47	2.14	35.83
121.00	159.47	166.59	169.40	172.22	169.40	2.20	35.98
122.57	159.59	155.33	158.40	161.45	158.39	2.39	36.45
124.71	159.74	152.93	155.54	158.87	156.77	2.32	37.08
125.99	159.82	153.22	156.60	160.08	156.63	2.68	37.47
126.90	159.89	155.00	158.70	162.29	158.67	2.85	37.74
129.15	160.04	180.19	184.17	188.00	184.12	3.05	38.41
131.00	160.16	156.43	160.60	164.62	160.55	3.20	38.95
131.47	160.19	154.81	159.03	163.08	158.98	3.23	39.09
133.84	160.35	153.20	156.19	160.46	156.59	2.85	39.80
136.00	160.49	153.98	158.63	163.11	158.58	3.56	40.44
136.28	160.50	154.69	159.37	163.87	159.31	3.58	40.52
138.78	160.66	181.17	186.10	190.82	186.04	3.77	41.27
141.00	160.80	155.61	160.75	165.66	160.68	3.93	41.93
141.35	160.82	154.56	159.73	164.67	159.66	3.95	42.03
143.99	160.98	153.52	156.91	162.07	157.46	3.37	42.82
145.99	161.10	153.96	158.62	163.93	158.83	3.89	43.41
146.70	161.14	154.51	160.10	165.48	160.03	4.28	43.62

149.48	161.31	152.45	188.30	193.88	188.21	4.46	44.45
150.99	161.39	159.18	165.17	170.87	165.08	4.57	44.90
152.33	161.47	154.39	160.50	166.29	160.40	4.65	45.30
155.25	161.64	153.88	157.69	163.70	158.38	3.87	46.17
155.99	161.68	153.96	157.91	163.97	158.57	3.94	46.39
158.26	161.80	154.59	160.91	167.13	160.88	4.90	47.06
161.00	161.95	172.31	179.13	185.55	179.01	5.17	47.87
161.33	161.97	183.92	190.78	197.22	190.65	5.19	47.97
164.49	162.14	154.78	161.34	168.03	161.38	5.18	48.91
165.99	162.22	154.43	159.22	166.04	159.85	4.56	49.36
167.73	162.31	154.25	158.55	165.51	159.38	4.44	49.88
171.00	162.47	154.96	161.67	168.88	161.83	5.44	50.85
171.06	162.48	154.98	161.79	169.00	161.91	5.48	50.87
174.46	162.65	185.52	193.55	201.03	193.38	6.06	51.88
175.99	162.72	160.32	168.49	176.09	168.31	6.16	52.33
177.95	162.82	155.17	162.26	170.00	162.46	5.80	52.92
180.99	162.97	154.63	159.52	167.53	160.49	5.09	53.82
181.53	162.99	154.62	159.50	167.55	160.49	5.11	53.98
185.19	163.16	155.36	162.76	171.14	163.07	6.17	55.07
185.99	163.20	155.57	164.56	173.02	164.40	6.82	55.31
188.95	163.34	186.80	196.15	204.86	195.95	7.06	56.19
190.99	163.43	158.47	167.98	176.87	167.78	7.19	56.79
192.80	163.51	155.52	163.30	172.38	163.70	6.59	57.33
195.99	163.66	154.81	160.59	170.06	161.74	6.02	58.28
196.74	163.69	154.77	160.54	170.10	161.72	6.06	58.50
200.78	163.87	155.39	163.81	173.96	164.35	7.27	59.70
201.00	163.88	155.45	164.21	174.39	164.65	7.41	59.77
204.93	164.04	183.89	194.80	205.13	194.62	8.29	60.94
206.00	164.09	164.22	175.22	185.58	175.02	8.35	61.26
209.21	164.22	155.73	164.44	174.91	164.99	7.50	62.21
211.00	164.30	155.42	162.57	173.03	163.62	6.95	62.74
213.65	164.41	155.36	161.90	172.50	163.17	6.76	63.53
216.00	164.50	155.05	162.95	173.62	164.06	6.99	64.23
216.78	164.53	156.11	163.64	174.33	164.63	7.16	64.46
218.44	164.60	156.76	165.73	176.47	166.28	7.71	64.96
219.49	164.64	157.22	167.51	178.28	167.66	8.23	65.27
220.23	164.67	157.57	168.95	179.74	168.77	8.66	65.49
220.78	164.69	157.98	170.08	180.88	169.67	8.95	65.65
221.00	164.70	158.40	170.51	181.32	170.10	8.96	65.72
221.22	164.71	158.81	170.94	181.76	170.53	8.97	65.78
221.57	164.72	159.42	171.58	182.41	171.17	8.99	65.80
221.86	164.73	159.87	172.05	182.90	171.64	9.00	65.97
222.53	164.76	160.57	172.85	183.73	172.41	9.05	66.19
223.01	164.78	161.60	173.90	184.80	173.46	9.07	66.32
225.90	164.89	168.47	180.94	191.91	180.48	9.16	67.17
226.58	164.92	170.07	182.60	193.50	182.12	9.19	
229.00	165.01	178.67	191.40	202.44	190.87	9.29	
230.00	165.05	182.24	195.04	206.10	194.50	9.33	
231.00	165.08	185.78	198.66	209.75	198.10	9.37	
232.00	165.12	187.64	200.57	211.70	200.01	9.41	
233.00	165.16	189.25	202.24	213.40	201.67	9.44	
234.00	165.19	190.68	203.73	214.92	203.15	9.48	

RUN NO. 10

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME SUBTROPICAL (3)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 370 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.61	135.66	134.71	135.75	136.93	135.79	0.87	1.67
9.47	138.57	136.78	138.69	141.15	138.86	1.71	2.82
15.06	141.90	139.38	142.08	145.98	142.45	2.59	4.48
18.71	143.60	140.81	143.83	148.39	144.31	2.98	5.56
24.47	145.79	142.72	146.08	151.40	146.69	3.42	7.28
30.66	147.67	144.46	148.04	153.87	148.74	3.72	9.12
35.91	149.01	145.75	149.44	155.57	150.20	3.88	10.68
40.87	150.11	146.84	150.61	156.94	151.41	3.99	12.15
45.99	151.12	147.84	151.68	158.19	152.51	4.09	13.68
50.67	151.95	148.69	152.57	159.21	153.43	4.16	15.07
55.77	152.78	149.53	153.46	160.22	154.34	4.23	16.58
60.46	153.47	150.24	154.21	161.05	155.11	4.27	17.98
65.95	154.22	151.02	155.04	161.93	155.93	4.32	19.61
70.81	154.84	151.66	155.72	162.66	156.62	4.35	21.06
75.84	155.43	152.29	156.38	163.37	157.28	4.38	22.55
80.78	155.97	152.88	156.99	164.02	157.90	4.41	24.02
85.79	156.50	153.44	157.58	164.65	158.50	4.43	25.51
90.65	156.97	153.96	158.13	165.23	159.05	4.46	26.96
96.00	157.47	154.51	158.70	165.84	159.62	4.48	28.55
100.94	157.90	154.99	159.21	166.38	160.13	4.50	30.02
102.36	158.02	155.14	159.80	166.51	160.32	0.53	30.44
104.04	158.17	155.16	159.95	167.80	160.97	0.64	30.94
105.77	158.31	155.54	159.46	168.47	161.49	0.75	31.45
106.00	158.33	155.85	159.79	168.81	161.81	0.77	31.52
107.54	158.45	156.21	157.26	168.42	161.29	0.87	31.98
109.36	158.60	156.23	154.42	165.74	161.46	0.98	32.52
111.00	158.73	156.46	156.77	168.24	161.82	1.09	33.01
111.24	158.74	156.24	157.57	169.06	162.62	1.10	33.08
113.16	158.89	156.47	158.95	170.97	163.49	1.23	33.65
115.15	159.04	156.22	157.87	169.74	163.94	1.38	34.24
115.99	159.11	156.13	155.86	167.81	163.93	1.44	34.49
117.18	159.20	156.17	155.01	167.09	163.08	1.53	34.85
119.28	159.35	156.10	158.15	160.46	162.23	1.71	35.47
120.99	159.47	168.75	170.97	173.49	171.06	1.85	35.98
121.43	159.50	180.22	182.49	185.06	182.59	1.89	36.11
123.65	159.66	155.90	150.42	161.24	158.51	2.09	36.77
125.93	159.82	152.93	155.56	158.62	155.69	2.22	37.45
126.00	159.82	152.93	155.57	158.63	155.70	2.23	37.47
128.28	159.98	155.73	158.72	162.00	158.81	2.45	38.15
130.70	160.14	180.99	184.19	187.70	184.29	2.62	38.86
131.00	160.16	172.34	175.57	179.10	175.66	2.64	38.95
133.18	160.31	155.67	159.04	162.76	159.15	2.77	39.60
135.74	160.47	153.18	156.21	160.13	156.49	2.73	40.36
136.00	160.49	153.19	156.25	160.20	156.53	2.74	40.44
138.37	160.64	155.71	159.39	163.52	159.53	3.05	41.15
141.00	160.80	180.65	184.46	188.79	184.62	3.18	41.93
141.08	160.80	182.33	186.14	190.48	186.30	3.19	41.95
143.86	160.97	155.72	159.75	164.30	159.91	3.35	42.78
146.00	161.10	153.52	157.06	161.76	157.42	3.23	43.41
146.73	161.15	153.49	156.94	161.68	157.34	3.22	43.63
149.68	161.32	155.72	160.13	165.08	160.33	3.66	44.51

150.93	161.39	160.07	164.55	169.59	164.72	3.72	44.90
152.71	161.49	183.78	188.35	193.50	188.53	3.80	45.41
155.83	161.67	155.82	160.53	165.89	160.73	3.94	46.34
156.00	161.68	155.48	160.19	165.57	160.40	3.94	46.39
159.04	161.84	153.83	157.72	163.30	158.25	3.72	47.29
160.99	161.95	154.16	158.82	164.53	159.15	4.06	47.87
162.34	162.02	155.83	160.94	166.73	161.15	4.26	48.27
165.74	162.20	185.53	190.85	196.87	191.07	4.43	49.28
166.00	162.22	176.71	182.05	186.09	182.27	4.45	49.36
169.23	162.38	155.86	161.35	167.61	161.59	4.59	50.32
170.99	162.47	154.31	159.14	165.53	159.63	4.40	50.85
172.81	162.56	154.14	158.54	165.06	155.20	4.29	51.39
175.99	162.72	155.09	160.90	167.65	161.19	4.91	52.33
176.50	162.75	155.90	161.76	168.55	162.05	4.94	52.48
180.29	162.90	187.48	193.60	200.66	193.89	5.15	53.61
180.99	162.97	169.62	175.79	182.90	176.08	5.19	53.82
184.18	163.12	155.87	162.19	169.57	162.52	5.36	54.77
185.99	163.20	154.58	160.10	167.64	160.73	5.12	55.31
188.17	163.30	154.38	159.40	167.14	160.25	5.02	55.96
191.00	163.43	154.76	160.91	168.89	161.48	5.54	56.79
192.28	163.49	155.85	162.64	170.74	163.05	5.82	57.18
195.99	163.66	173.43	180.47	188.90	180.90	6.05	58.28
196.49	163.68	189.16	196.25	204.73	196.68	6.09	58.43
200.82	163.87	155.72	163.12	172.06	163.60	6.40	59.72
201.00	163.88	155.44	162.85	171.82	163.34	6.41	59.77
205.26	164.06	154.20	160.36	169.87	161.41	6.17	61.04
205.99	164.09	154.19	160.41	170.09	161.52	6.26	61.25
209.82	164.25	155.48	163.64	173.37	164.13	7.00	62.39
210.99	164.30	157.63	165.84	175.59	166.32	7.02	62.74
214.51	164.44	187.03	195.34	205.16	195.81	7.09	63.79
216.00	164.50	184.96	173.30	183.15	173.77	7.11	64.23
219.35	164.63	155.67	164.23	174.17	164.66	7.24	65.23
221.00	164.70	155.04	162.59	172.57	163.35	6.87	65.72
224.38	164.83	154.91	161.64	171.71	162.68	6.61	66.72
226.00	164.89	155.12	162.09	172.19	163.07	6.71	67.20
227.91	164.97	155.58	163.34	173.49	164.08	7.02	67.77
229.78	165.04	156.45	165.41	175.61	165.80	7.49	68.33
230.96	165.08	158.12	167.20	177.42	167.55	7.54	68.68
231.00	165.08	158.18	167.25	177.48	167.61	7.55	68.69
231.79	165.11	159.51	168.64	178.89	168.99	7.58	68.93
232.41	165.14	160.60	169.79	180.05	170.13	7.60	69.11
232.89	165.15	161.45	170.67	180.95	171.00	7.62	69.25
233.29	165.17	162.09	171.33	181.62	171.66	7.63	69.37
233.61	165.18	162.56	171.83	182.13	172.15	7.65	69.47
234.43	165.21	163.32	172.66	183.01	172.98	7.69	69.71
234.90	165.23	164.33	173.69	184.04	174.00	7.70	69.85
235.99	165.27	166.70	176.11	186.48	176.41	7.73	70.18
238.83	165.37	172.32	182.19	192.78	182.42	8.00	
241.00	165.45	176.24	186.34	197.11	186.55	8.16	
242.00	165.49	177.86	188.23	199.10	188.39	8.30	
243.00	165.52	179.90	190.43	201.39	190.56	8.40	
244.00	165.56	181.64	192.26	203.31	192.40	8.47	
245.00	165.59	183.03	193.84	204.98	193.94	8.57	
246.00	165.63	184.20	195.23	206.46	195.29	8.70	
247.00	165.66	185.32	196.48	207.79	196.53	8.78	

RUN NO. 11

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT (4)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.67	135.70	134.77	135.79	136.94	135.83	0.85	1.68
9.37	138.50	136.79	138.62	140.95	138.78	1.63	2.79
15.27	142.00	139.51	142.18	146.01	142.54	2.55	4.54
18.75	143.62	140.86	143.84	148.30	144.30	2.93	5.58
24.05	145.65	142.63	145.93	151.11	146.51	3.34	7.15
30.74	147.70	144.50	148.06	153.82	148.74	3.68	9.14
35.94	149.02	145.77	149.44	155.51	150.19	3.85	10.69
40.98	150.14	146.87	150.62	156.91	151.41	3.97	12.19
45.84	151.10	147.82	151.64	158.10	152.47	4.06	13.63
50.69	151.96	148.70	152.57	159.17	153.42	4.14	15.07
55.98	152.81	149.57	153.49	160.22	154.37	4.21	16.65
60.50	153.48	150.26	154.22	161.03	155.11	4.26	17.99
65.74	154.20	151.01	155.01	161.89	155.91	4.30	19.55
70.82	154.84	151.68	155.72	162.66	156.63	4.34	21.06
75.93	155.44	152.32	156.40	163.39	157.31	4.38	22.58
80.77	155.97	152.90	157.01	164.04	157.92	4.40	24.02
85.87	156.50	153.49	157.63	164.69	158.54	4.43	25.54
90.69	156.98	154.02	158.18	165.28	159.10	4.45	26.97
95.98	157.47	154.58	158.77	165.90	159.69	4.48	28.54
100.95	157.90	155.08	159.30	166.47	160.22	4.51	30.02
102.17	158.01	155.23	159.69	166.58	160.30	0.53	30.38
103.73	158.14	155.25	157.04	167.88	157.05	0.64	30.85
105.33	158.27	178.62	179.55	180.54	179.57	0.75	31.32
106.00	158.33	163.22	164.22	165.28	164.24	0.80	31.52
106.97	158.41	156.29	157.36	158.52	157.39	0.87	31.81
108.65	158.54	153.31	154.53	155.86	154.56	0.99	32.31
110.38	158.68	156.32	157.70	159.21	157.74	1.13	32.82
111.00	158.73	159.55	160.99	162.58	161.04	1.18	33.01
112.14	158.81	179.54	181.10	182.82	181.15	1.28	33.35
113.95	158.95	156.29	158.06	160.01	158.12	1.46	33.89
115.81	159.09	153.22	155.25	157.47	155.31	1.66	34.44
116.00	159.11	153.24	155.30	157.54	155.36	1.68	34.49
117.72	159.24	155.12	158.45	160.97	158.51	1.89	35.00
119.67	159.38	180.18	182.86	185.70	182.91	2.15	35.59
121.00	159.47	158.86	161.77	164.83	161.82	2.33	35.98
121.67	159.52	155.82	158.85	162.01	158.89	2.42	36.18
123.73	159.67	153.47	156.04	159.53	156.32	2.36	36.79
125.83	159.81	155.57	159.23	162.97	159.25	2.89	37.42
126.00	159.82	156.13	159.80	163.56	159.93	2.90	37.47
127.99	159.96	180.78	184.71	188.71	184.73	3.10	38.06
130.21	160.11	155.42	159.59	163.85	159.62	3.30	38.72
130.99	160.16	154.05	157.84	162.18	158.01	3.18	38.95
132.48	160.26	153.81	156.77	161.27	157.25	2.94	39.39
134.81	160.41	155.26	159.96	164.70	159.97	3.69	40.09
135.99	160.49	160.50	165.33	170.18	165.34	3.78	40.44
137.20	160.56	181.74	186.69	191.66	186.70	3.87	40.80
139.65	160.72	155.14	160.33	165.53	160.33	4.06	41.53
140.99	160.80	154.29	158.01	163.33	158.51	3.55	41.93
142.16	160.87	154.15	157.51	162.94	159.16	3.47	42.27
144.74	161.03	155.04	160.71	166.35	160.70	4.42	43.04
145.99	161.10	159.98	165.79	171.53	165.77	4.51	43.41

147.37	161.18	182.95	188.89	194.74	188.86	4.61	43.82
150.08	161.34	155.05	161.11	167.17	161.11	4.74	44.63
151.00	161.39	154.81	159.42	165.56	159.90	4.22	44.90
152.85	161.50	154.54	158.31	164.62	159.10	3.98	45.45
155.70	161.66	155.26	161.52	168.09	161.62	5.01	46.30
156.00	161.68	155.58	162.32	168.91	162.28	5.21	46.59
158.61	161.82	184.37	191.37	198.19	191.31	5.40	47.16
160.99	161.95	156.28	163.50	170.52	163.44	5.66	47.87
161.59	161.98	155.47	161.96	169.03	162.14	5.30	48.05
164.65	162.14	164.95	169.18	166.50	160.14	4.57	48.96
165.99	162.22	155.15	159.80	167.22	160.67	4.76	49.36
167.77	162.31	155.69	162.43	170.00	162.69	5.69	49.89
170.98	162.47	185.97	194.14	201.96	194.03	6.25	50.84
171.00	162.47	185.68	193.86	201.68	193.75	6.25	50.85
174.26	162.64	155.92	162.93	171.05	163.27	5.91	51.82
175.99	162.72	155.53	160.69	168.96	161.66	5.30	52.33
177.62	162.80	155.39	160.18	188.62	161.32	5.24	52.52
181.00	162.97	156.14	163.35	172.13	163.84	6.26	53.82
181.05	162.97	156.15	163.46	172.25	163.92	6.30	53.84
184.57	163.14	187.29	196.71	205.85	196.62	7.25	54.88
185.99	163.20	161.58	171.11	180.38	171.03	7.35	55.31
188.17	163.30	156.40	164.04	173.52	164.61	6.70	55.96
190.99	163.43	155.81	161.42	171.21	162.72	6.10	56.79
191.86	163.47	155.76	161.34	171.25	162.69	6.14	57.05
195.63	163.64	156.49	164.69	175.09	165.38	7.28	58.17
196.00	163.66	156.60	165.42	175.89	165.94	7.54	58.28
199.51	163.81	184.40	195.34	206.19	195.31	8.51	59.33
201.00	163.88	161.83	172.85	183.75	172.81	8.56	59.77
203.50	163.98	156.88	165.48	176.46	166.22	7.67	60.51
206.00	164.09	156.53	163.20	174.27	164.57	7.01	61.26
207.64	164.16	156.60	163.04	174.15	164.49	6.94	61.74
210.56	164.28	157.44	164.85	176.08	166.04	7.34	62.61
211.00	164.30	157.62	165.36	176.61	166.46	7.46	62.74
212.12	164.34	158.14	166.98	178.28	167.75	7.89	63.08
213.10	164.38	158.64	168.78	180.13	169.16	8.40	63.37
213.80	164.41	159.01	170.22	181.60	170.27	8.83	63.57
214.32	164.43	159.39	171.34	182.75	171.17	9.13	63.73
214.72	164.45	160.22	172.20	183.63	172.03	9.16	63.85
215.05	164.46	160.83	172.84	184.28	172.66	9.16	63.95
215.32	164.47	161.23	173.31	184.80	173.13	9.21	64.03
216.00	164.50	161.98	174.10	185.61	173.91	9.23	64.23
216.00	164.50	161.99	174.10	185.61	173.91	9.23	64.23
216.41	164.52	163.03	175.17	186.69	174.98	9.24	64.35
219.79	164.65	171.65	183.95	195.59	183.74	9.35	
222.00	164.74	180.00	192.45	204.15	192.22	9.44	
223.00	164.78	183.78	196.30	208.02	196.05	9.47	
224.00	164.82	187.57	200.15	211.90	199.89	9.50	
225.00	164.85	191.37	204.00	215.77	203.73	9.54	
226.00	164.89	194.94	207.64	219.44	207.36	9.57	
227.00	164.93	196.46	209.21	221.06	208.93	9.61	

RUN NO. 12

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA: 0 FT

CLIMATE: CONTINENTAL TEMPERATE (6)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 336 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.65	135.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.96	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.61	156.92	151.41	3.98	12.18
45.88	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.68	152.55	159.17	153.41	4.15	15.07
55.91	152.80	149.55	153.47	160.21	154.35	4.22	16.63
60.48	153.46	150.24	154.20	161.02	155.09	4.26	17.99
65.79	154.20	150.99	155.00	161.88	155.89	4.31	19.56
70.81	154.84	151.65	155.70	162.64	156.60	4.34	21.06
75.91	155.44	152.29	156.37	163.35	157.28	4.38	22.57
80.77	155.97	152.86	156.97	164.00	157.88	4.40	24.02
85.85	156.50	153.43	157.58	164.64	158.49	4.43	25.53
90.67	156.97	153.95	158.12	165.22	159.03	4.45	26.96
95.97	157.47	154.49	158.69	165.82	159.60	4.48	28.54
100.94	157.90	154.96	159.20	166.37	160.11	4.51	30.02
102.41	158.03	155.06	159.30	166.50	160.29	0.56	30.45
104.01	158.16	155.07	159.44	166.79	160.93	0.57	30.93
105.66	158.30	155.42	159.44	166.79	160.93	0.79	31.42
106.00	158.33	155.62	159.66	166.70	160.66	0.81	31.52
107.35	158.44	155.07	159.24	166.40	160.24	0.91	31.92
109.08	158.58	155.07	159.39	166.72	160.39	1.04	32.44
110.86	158.72	155.04	159.54	166.05	160.54	1.17	32.97
111.00	158.73	155.59	159.10	166.62	160.10	1.19	33.01
112.65	158.86	159.20	160.91	162.61	160.91	1.33	33.51
114.56	159.00	155.86	159.83	160.74	160.81	1.52	34.07
115.99	159.11	152.91	155.10	157.20	155.07	1.68	34.49
116.49	159.14	152.76	154.96	157.13	154.95	1.70	34.64
118.46	159.29	155.46	158.10	160.54	158.04	1.99	35.23
120.49	159.44	159.40	162.44	165.18	162.35	2.26	35.83
121.00	159.47	166.24	169.37	172.18	169.27	2.32	35.98
122.57	159.59	154.96	158.37	161.41	158.26	2.52	36.45
124.71	159.74	152.92	155.52	158.83	155.74	2.31	37.08
125.99	159.82	153.19	156.57	160.03	156.59	2.67	37.47
126.90	159.89	154.65	158.67	162.24	158.53	2.97	37.74
129.15	160.04	159.78	164.14	167.95	163.97	3.19	38.41
131.00	160.16	155.99	160.57	164.56	160.39	3.35	38.95
131.47	160.19	154.36	158.99	163.03	158.81	3.39	39.09
133.84	160.35	153.17	156.16	160.40	156.55	2.84	39.80
136.00	160.49	153.71	158.60	163.02	158.46	3.64	40.44
136.28	160.50	154.24	159.34	163.78	159.14	3.73	40.52
138.78	160.65	160.78	166.08	170.74	165.88	3.89	41.27
141.00	160.80	155.27	160.72	165.57	160.53	4.02	41.93
141.35	160.82	154.23	159.70	164.50	159.52	4.04	42.03
143.99	160.98	153.49	156.88	161.97	157.41	3.34	42.82
145.99	161.10	153.95	158.59	163.84	158.78	3.86	43.41
146.70	161.14	154.18	160.08	165.38	159.89	4.38	43.62

149.48	161.31	182.10	188.27	193.78	188.06	4.57	44.45
150.99	161.39	158.87	165.15	170.77	164.95	4.65	44.90
152.33	161.47	154.38	160.48	166.19	160.36	4.62	45.30
155.25	161.64	153.86	157.68	163.60	158.33	3.83	46.17
155.99	161.68	153.94	157.89	163.87	158.53	3.91	46.39
158.26	161.80	154.58	160.89	167.02	160.83	4.86	47.06
161.00	161.95	172.13	179.12	185.44	178.91	5.20	47.87
161.33	161.97	183.75	190.77	197.12	190.56	5.22	47.97
164.49	162.14	154.77	161.33	167.90	161.33	5.13	48.91
165.99	162.22	154.42	159.21	165.89	159.80	4.50	49.36
167.73	162.31	154.24	158.54	165.34	159.32	4.38	49.88
171.00	162.47	154.96	161.66	168.72	161.77	5.38	50.85
171.06	162.48	154.97	161.78	168.84	161.86	5.42	50.87
174.46	162.65	185.66	193.54	200.86	193.37	5.94	51.88
175.99	162.72	180.47	168.49	175.92	158.31	6.04	52.33
177.95	162.82	155.17	162.26	169.84	162.41	5.73	52.92
180.99	162.97	154.63	159.52	167.37	160.44	5.02	53.82
181.53	162.99	154.62	159.50	167.39	160.44	5.04	53.98
185.19	163.16	155.36	162.76	170.99	163.02	6.11	55.07
185.99	163.20	155.94	164.56	172.86	164.46	6.61	55.31
188.95	163.34	187.33	196.15	204.71	196.07	6.79	56.19
190.99	163.43	158.97	167.98	176.72	167.90	6.93	56.79
192.80	163.51	155.52	163.30	172.23	163.66	6.53	57.33
195.99	163.66	154.82	160.59	169.88	161.69	5.94	58.28
196.74	163.69	154.77	160.55	169.92	161.67	5.98	58.50
200.78	163.87	155.40	163.82	173.76	164.29	7.18	59.70
201.00	163.88	155.46	164.21	174.18	164.59	7.32	59.77
204.93	164.04	184.85	194.81	204.90	194.85	7.83	60.94
206.00	164.09	165.20	175.23	185.36	175.26	7.87	61.26
209.21	164.22	155.75	164.46	174.69	164.93	7.41	62.21
211.00	164.30	155.44	162.59	172.07	163.57	6.85	62.74
213.65	164.41	155.38	161.02	172.28	163.12	6.86	63.53
216.00	164.50	155.87	162.98	173.41	164.01	6.89	64.23
216.78	164.53	156.13	163.67	174.12	164.58	7.06	64.46
218.44	164.60	156.78	165.76	176.26	166.23	7.62	64.96
219.49	164.64	157.25	167.54	178.07	167.62	8.14	65.27
220.23	164.67	158.40	168.98	179.53	168.97	8.25	65.49
220.78	164.69	159.51	170.10	180.68	170.10	8.27	65.65
221.00	164.70	159.94	170.54	181.11	170.53	8.27	65.72
221.22	164.71	160.36	170.96	181.55	170.96	8.28	65.78
221.57	164.72	160.99	171.61	182.21	171.60	8.29	65.89
221.86	164.73	161.45	172.06	182.69	172.08	8.30	65.97
222.58	164.76	162.16	172.88	183.53	172.85	8.35	66.19
223.01	164.78	163.18	173.93	184.59	173.90	8.36	66.32
225.90	164.89	170.07	180.97	191.71	180.92	8.45	67.17
226.58	164.92	171.70	182.63	193.33	182.57	8.47	
229.00	165.01	180.41	191.43	202.24	191.36	8.53	
230.00	165.05	184.01	195.07	205.90	195.00	8.55	
231.00	165.08	187.60	198.69	209.54	198.61	8.57	
232.00	165.12	189.48	200.60	211.48	200.53	8.59	
233.00	165.16	191.13	202.28	213.18	202.20	8.61	
234.00	165.19	192.59	203.76	214.68	203.68	8.63	

RUN NO. 13

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA: 0 FT

CLIMATE: MARITIME TEMPERATE OVERLAND (7)

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.84	132.54	132.70	132.87	132.70	0.13	0.30
5.65	135.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.96	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.62	156.92	151.41	3.98	12.18
45.88	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.68	152.56	159.17	153.41	4.15	15.07
55.91	152.76	149.55	153.47	160.21	154.35	4.22	16.63
60.48	153.44	150.24	154.20	161.02	155.10	4.26	17.99
65.79	154.20	150.99	155.03	161.89	155.90	4.31	19.56
70.81	154.84	151.66	155.70	162.64	156.61	4.24	21.06
75.91	155.44	152.29	156.38	163.36	157.28	4.38	22.57
80.77	155.97	152.87	156.96	164.01	157.89	4.40	24.02
85.85	156.50	153.45	157.59	164.65	158.50	4.43	25.53
90.67	156.97	153.97	158.13	165.23	159.05	4.45	26.96
95.67	157.47	154.52	158.71	165.84	159.63	4.48	28.54
100.44	157.90	155.01	159.25	166.39	160.15	4.50	30.02
102.41	158.03	155.22	159.83	164.48	160.84	0.49	30.45
104.01	158.16	156.23	156.98	157.77	156.99	0.60	30.93
105.65	158.30	158.61	159.48	180.43	179.51	0.71	31.42
106.00	158.33	168.81	169.71	170.68	169.73	0.73	31.52
107.35	158.44	156.29	157.29	158.39	157.32	0.82	31.92
109.08	158.58	153.32	154.45	155.70	154.49	0.93	32.44
110.86	158.72	156.35	157.60	159.02	157.65	1.04	32.97
111.00	158.73	156.90	158.17	159.59	156.22	1.05	33.01
112.69	158.86	179.60	180.99	182.57	181.05	1.16	33.51
114.56	159.00	156.39	157.93	159.65	157.99	1.29	34.07
115.99	159.11	153.56	155.22	157.11	155.29	1.39	34.49
116.49	159.14	153.39	155.09	157.03	155.16	1.42	34.64
118.46	159.29	156.39	158.25	160.40	158.34	1.57	35.23
120.49	159.44	180.55	182.62	184.99	182.71	1.73	35.83
121.00	159.47	167.44	169.56	171.98	169.65	1.78	35.98
122.57	159.55	156.31	158.59	161.16	158.68	1.90	36.45
124.71	159.74	153.28	155.76	159.54	155.85	2.06	37.08
125.99	159.82	154.23	156.83	159.73	156.92	2.15	37.47
126.90	159.89	156.27	158.94	161.93	159.04	2.21	37.74
129.15	160.04	181.58	184.43	187.61	184.53	2.36	38.41
131.00	160.16	157.90	160.68	164.22	160.99	2.47	38.95
131.47	160.19	156.30	159.31	162.68	159.42	2.49	39.09
133.84	160.35	153.51	156.49	160.05	156.67	2.56	39.80
136.00	160.49	155.67	158.95	162.68	159.09	2.74	40.44
136.28	160.50	156.39	159.69	163.44	159.83	2.76	40.52
138.78	160.66	183.02	186.44	190.38	186.60	2.88	41.27
141.00	160.80	157.57	161.10	165.21	161.28	2.99	41.93
141.35	160.82	156.53	160.09	164.22	160.27	3.03	42.03
143.99	160.96	153.89	157.29	161.61	157.58	3.02	42.82
145.99	161.10	155.18	159.01	163.48	159.21	3.24	43.41
146.70	161.14	156.63	160.52	165.02	160.70	3.28	43.62

149.48	161.31	159.90	163.49	168.21	163.84	3.26	44.45
150.99	161.39	159.96	163.61	168.44	163.98	3.32	44.90
152.33	161.47	160.02	163.72	168.64	164.10	3.38	45.30
155.25	161.64	160.14	163.95	169.08	164.35	3.50	46.17
155.99	161.68	160.17	164.01	169.19	164.43	3.54	46.39
158.26	161.80	160.26	164.19	169.52	164.63	3.69	47.06
161.00	161.95	160.37	164.41	169.92	164.87	3.75	47.87
161.33	161.97	160.39	164.44	169.97	164.90	3.76	47.97
164.49	162.14	160.51	164.68	170.47	165.19	3.91	48.91
165.99	162.22	160.57	164.80	170.70	165.32	3.98	49.36
167.73	162.31	160.64	164.94	170.97	165.48	4.06	49.88
171.00	162.47	160.76	165.19	171.48	165.77	4.21	50.85
171.06	162.48	160.78	165.20	171.49	165.78	4.21	50.87
174.46	162.65	160.89	165.46	172.02	166.08	4.37	51.88
175.99	162.72	160.95	165.58	172.25	166.22	4.44	52.33
177.95	162.82	161.02	165.73	172.55	166.39	4.53	52.92
180.99	162.97	161.12	165.97	173.06	166.66	4.69	53.82
181.53	162.99	161.13	166.01	173.15	166.71	4.72	53.98
185.19	163.16	161.25	166.29	173.77	167.05	4.93	55.07
185.99	163.20	161.27	166.35	173.91	167.13	4.97	55.31
188.95	163.34	161.36	166.59	174.44	167.41	5.15	56.19
190.99	163.43	161.42	166.75	174.80	167.60	5.27	56.79
192.80	163.51	161.42	166.88	175.14	167.76	5.40	57.33
195.99	163.66	161.38	167.09	175.75	168.01	5.66	58.28
196.74	163.69	161.36	167.14	175.89	168.07	5.72	58.50
200.78	163.87	161.25	167.49	176.83	168.46	6.13	59.70
201.00	163.88	161.24	167.52	176.89	168.48	6.16	59.77
204.93	164.04	161.42	168.05	177.54	168.94	6.33	60.94
206.00	164.09	161.45	168.17	177.68	169.04	6.37	61.26
209.21	164.22	161.35	168.13	177.71	169.00	6.42	62.21
211.00	164.30	161.17	167.82	177.45	168.75	6.41	62.74
213.65	164.41	160.80	167.34	177.08	168.34	6.40	63.53
216.00	164.50	160.56	167.43	177.25	168.35	6.55	64.23
216.78	164.53	160.52	167.66	177.49	168.50	6.66	64.46
218.44	164.60	160.49	168.33	178.42	169.11	7.02	64.96
219.49	164.64	161.25	169.38	179.30	169.94	7.07	65.27
220.23	164.67	161.90	170.08	180.03	170.63	7.09	65.49
220.78	164.69	162.41	170.63	180.60	171.18	7.12	65.65
221.00	164.70	162.60	170.85	180.82	171.39	7.13	65.72
221.22	164.71	162.80	171.07	181.05	171.60	7.14	65.78
221.57	164.72	163.10	171.40	181.39	171.93	7.16	65.89
221.86	164.73	163.33	171.66	181.67	172.18	7.17	65.97
221.88	164.73	163.35	171.68	181.69	172.20	7.17	65.98
223.01	164.78	166.65	175.09	185.14	175.59	7.23	66.32
225.82	164.89	174.93	183.52	193.66	184.01	7.32	
228.00	164.97	182.84	191.53	201.73	192.00	7.38	
229.00	165.01	186.48	195.21	205.43	195.88	7.41	
230.00	165.05	190.12	198.89	209.13	199.35	7.43	
231.00	165.08	192.86	201.46	211.73	201.92	7.46	
232.00	165.12	194.35	203.18	213.49	203.64	7.49	
233.00	165.16	195.85	204.71	215.06	205.17	7.51	

RUN NO. 14

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL
FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME TEMPERATE OVERSEA (8)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.65	136.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.95	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.61	156.92	151.41	3.98	12.18
45.86	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.68	152.55	159.17	153.41	4.15	15.07
55.91	152.80	149.54	153.46	160.21	154.34	4.22	16.63
60.48	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.79	154.20	150.99	154.99	161.88	155.89	4.31	19.58
70.81	154.84	151.65	155.70	162.63	156.60	4.34	21.06
75.91	155.44	152.28	156.37	163.35	157.27	4.38	22.57
80.77	155.97	152.86	156.97	163.99	157.88	4.40	24.02
85.85	156.50	153.43	157.57	164.63	158.48	4.43	25.53
90.67	156.97	153.95	158.11	165.21	159.03	4.45	26.96
95.97	157.47	154.49	158.68	165.81	159.59	4.48	28.54
100.94	157.90	154.96	159.18	166.35	160.10	4.50	30.02
102.41	158.03	155.12	159.76	166.44	159.78	0.52	30.45
104.01	158.16	155.13	159.93	167.73	159.93	0.63	30.93
105.66	158.30	155.50	159.42	168.38	159.43	0.74	31.42
106.00	158.33	155.61	159.64	170.64	159.66	0.76	31.52
107.35	158.44	155.16	157.22	158.33	157.23	0.85	31.92
109.08	158.58	153.17	154.36	155.64	154.39	0.97	32.44
110.98	158.72	155.16	157.51	158.95	157.54	1.09	32.97
111.00	158.73	156.71	158.07	159.53	158.10	1.10	33.01
112.69	158.86	159.36	160.88	162.49	160.91	1.22	33.51
114.56	159.00	156.07	157.78	159.59	157.81	1.38	34.07
115.99	159.11	153.17	155.05	157.02	155.08	1.50	34.49
116.49	159.14	152.96	154.91	156.93	154.93	1.55	34.64
118.46	159.29	155.62	158.04	160.29	158.05	1.75	35.23
120.49	159.44	159.86	162.37	164.87	162.37	1.96	35.83
121.00	159.47	166.72	169.30	171.66	169.29	2.01	35.98
122.57	159.59	155.50	158.29	161.04	158.28	2.16	36.45
124.71	159.74	152.83	155.42	158.42	155.55	2.19	37.08
125.99	159.82	153.30	156.47	159.60	156.46	2.46	37.47
126.90	159.89	165.32	168.57	161.80	158.56	2.53	37.74
129.15	160.04	160.50	164.03	167.49	164.02	2.71	38.41
131.00	160.16	156.78	160.46	164.10	160.45	2.86	38.95
131.47	160.19	155.15	158.88	162.57	158.37	2.90	39.09
133.84	160.35	153.05	156.04	159.94	156.32	2.70	39.80
136.00	160.49	154.35	158.47	162.57	158.46	3.21	40.44
136.28	160.50	155.06	159.21	163.33	159.20	3.23	40.52
138.78	160.65	161.61	165.94	160.29	165.95	3.39	41.27
141.00	160.80	156.11	160.51	165.12	160.60	3.52	41.93
141.35	160.82	155.07	159.16	164.13	159.59	3.54	42.03
143.99	160.98	153.34	156.73	161.53	157.17	3.22	42.82
145.99	161.10	153.79	153.43	163.40	156.54	3.75	43.41
146.70	161.14	155.06	159.82	164.94	159.93	3.85	43.62

149.48	161.31	183.02	188.10	193.35	188.16	4.03	44.45
150.99	161.39	159.79	164.98	170.34	165.03	4.12	44.90
152.33	161.47	155.02	160.29	165.77	160.36	4.20	45.30
155.25	161.64	153.67	157.48	163.21	158.08	3.76	46.17
155.99	161.68	153.74	157.70	163.49	158.27	3.83	46.39
158.26	161.80	155.10	160.68	166.68	160.81	4.53	47.06
161.00	161.95	173.14	178.90	185.14	179.05	4.69	47.87
161.33	161.97	184.75	190.54	196.82	190.69	4.72	47.97
164.49	162.14	155.01	161.08	167.64	161.23	4.93	48.91
165.99	162.22	154.16	158.95	165.65	159.54	4.51	49.36
167.73	162.31	153.96	158.26	165.12	159.08	4.40	49.68
171.00	162.47	154.92	161.34	166.49	161.57	5.30	50.85
171.06	162.46	155.04	161.46	168.62	161.69	5.31	50.87
174.46	162.65	186.63	192.19	200.67	193.48	5.49	51.88
175.99	162.72	161.39	158.12	175.75	168.40	5.62	52.33
177.95	162.82	154.97	161.87	169.70	162.16	5.76	52.92
180.99	162.97	154.21	159.10	167.26	160.12	5.16	53.82
181.53	162.99	154.19	159.07	167.29	160.11	5.18	53.98
185.19	163.16	154.97	162.29	170.93	162.70	6.24	55.07
185.99	163.20	156.73	164.08	172.31	164.51	6.29	55.31
188.95	163.34	188.07	195.63	204.67	196.09	6.50	56.19
190.99	163.43	159.68	167.44	176.70	167.90	6.66	56.79
192.80	163.51	154.95	162.74	172.23	163.27	6.76	57.53
195.99	163.66	154.23	160.01	169.96	161.31	6.22	58.28
196.74	163.69	154.18	159.96	170.01	161.29	6.26	58.60
200.73	163.87	154.79	163.21	173.91	163.92	7.49	59.70
201.00	163.88	154.98	163.61	174.34	164.26	7.58	59.77
204.93	164.04	185.23	194.17	205.12	194.80	7.78	60.94
206.00	164.09	165.59	174.59	185.59	175.21	7.82	61.26
209.21	164.22	155.07	163.79	174.94	164.55	7.78	62.21
211.00	164.30	154.75	161.90	173.14	163.18	7.25	62.74
213.65	164.41	154.67	161.21	172.62	162.73	7.11	63.53
216.00	164.50	155.14	162.24	173.80	163.63	7.37	64.23
216.78	164.53	155.39	162.92	174.53	164.19	7.54	64.46
218.44	164.60	156.02	164.99	176.70	165.85	8.10	64.96
219.49	164.64	157.08	166.77	178.54	167.42	8.40	65.27
220.23	164.67	158.48	168.20	180.01	168.85	8.43	65.49
220.78	164.68	159.58	169.31	181.17	169.97	8.45	65.65
221.00	164.70	160.00	169.74	181.61	170.40	8.46	65.72
221.22	164.71	160.41	170.17	182.05	170.83	8.47	65.78
221.57	164.72	161.04	170.81	182.71	171.47	8.48	65.89
221.86	164.73	161.49	171.28	183.21	171.95	8.50	65.97
222.58	164.76	162.22	172.06	184.06	172.73	8.55	66.19
223.01	164.78	163.26	173.11	185.13	173.78	8.56	66.32
225.90	164.89	170.14	180.12	192.29	180.80	8.67	67.17
226.68	164.92	171.72	181.77	193.97	182.44	8.71	
229.00	165.01	180.31	190.54	202.86	191.19	8.82	
230.00	165.05	183.88	194.16	206.53	194.81	8.86	
231.00	165.08	187.44	197.76	210.19	198.42	8.90	
232.00	165.12	189.30	199.66	212.13	200.32	8.93	
233.00	165.16	190.93	201.32	213.64	201.99	8.96	
234.00	165.19	192.38	202.79	215.38	203.47	9.00	

RUN NO. 15

JOHNSON & GIEKHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: CONTINENTAL ALL YEAR (0)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 301 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.66	135.69	134.76	135.78	136.94	135.82	0.85	1.66
9.39	138.51	136.78	138.63	140.98	138.79	1.64	2.79
15.23	141.98	139.49	142.17	146.00	142.53	2.56	4.53
18.74	143.61	140.85	143.83	148.31	144.30	2.93	5.57
24.10	145.67	142.64	145.95	151.15	146.54	3.35	7.17
30.72	147.69	144.49	148.05	153.83	148.74	3.68	9.14
35.98	149.03	145.77	149.45	155.53	150.20	3.85	10.70
40.99	150.14	146.86	150.62	156.92	151.41	3.97	12.19
45.86	151.10	147.82	151.64	158.11	152.46	4.07	13.64
50.68	151.96	148.68	152.55	159.16	153.41	4.14	15.07
55.95	152.81	149.55	153.47	160.21	154.35	4.21	16.64
60.49	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.77	154.20	150.99	154.99	161.87	155.89	4.31	19.56
70.81	154.94	151.65	155.70	162.63	156.60	4.34	21.06
75.92	155.44	152.29	156.37	163.35	157.28	4.38	22.58
80.77	155.97	152.86	156.97	164.00	157.88	4.40	24.02
85.87	156.50	153.44	157.58	164.64	158.49	4.43	25.53
90.68	156.98	153.96	158.12	165.22	159.04	4.45	26.96
95.97	157.47	154.50	158.69	165.82	159.61	4.48	28.54
100.63	157.88	154.95	159.17	166.34	160.09	4.50	29.92
105.62	158.30	155.40	159.66	166.87	160.58	4.53	31.41
110.99	158.73	155.83	160.16	167.43	161.08	4.58	33.00
116.81	159.09	156.11	160.56	167.90	161.46	4.66	34.44
120.97	159.47	156.24	160.95	168.40	161.80	4.79	35.97
125.91	159.82	156.32	161.32	168.88	162.12	4.94	37.44
130.90	160.16	156.63	161.88	169.55	162.63	5.08	38.92
135.78	160.47	157.19	162.66	170.42	163.38	5.19	40.37
140.89	160.79	157.77	163.45	171.27	164.12	5.30	41.89
145.90	161.10	158.31	164.19	172.06	164.81	5.39	43.38
150.93	161.39	158.85	164.93	172.84	165.50	5.48	44.88
155.82	161.67	159.37	165.63	173.58	166.16	5.57	46.34
160.71	161.93	159.88	166.33	174.32	166.81	5.65	47.79
165.80	162.20	160.39	167.06	175.09	167.48	5.75	49.30
170.95	162.47	160.91	167.79	175.87	168.16	5.85	50.83
175.86	162.72	161.39	168.48	176.62	168.81	5.95	52.29
180.94	162.96	161.86	169.20	177.44	169.48	6.09	53.81
185.79	163.19	162.28	169.88	178.27	170.13	6.25	55.25
190.62	163.42	162.68	170.55	179.14	170.78	6.43	56.68
195.62	163.64	163.03	171.25	180.18	171.47	6.70	58.17
200.81	163.87	163.37	171.96	181.31	172.20	7.01	59.71
205.93	164.09	163.84	172.67	182.13	172.87	7.15	61.23
210.57	164.28	164.25	173.30	182.88	173.47	7.28	62.61
210.99	164.30	164.29	173.36	182.95	173.52	7.29	62.74
213.59	164.40	164.53	173.71	183.37	173.86	7.36	63.51
215.20	164.47	164.67	173.93	183.63	174.07	7.41	63.99
216.00	164.50	164.74	174.04	183.76	174.17	7.43	64.23
216.22	164.51	164.76	174.07	183.80	174.20	7.44	64.30
216.93	164.54	164.83	174.17	183.92	174.30	7.46	64.51
217.47	164.56	164.87	174.25	184.01	174.37	7.47	64.67
217.89	164.58	164.91	174.31	184.08	174.43	7.49	64.79
218.23	164.59	164.94	174.36	184.14	174.47	7.50	64.89

218.51	164.60	164.97	174.41	184.21	174.52	7.52	64.98
219.21	164.63	165.04	174.54	184.36	174.64	7.55	65.18
219.63	164.64	165.07	174.59	184.43	174.69	7.56	65.31
221.00	164.70	167.53	177.10	186.97	177.19	7.59	65.72
223.10	164.78	172.71	182.36	192.28	182.45	7.65	
226.00	164.89	183.41	193.18	203.18	193.25	7.72	
227.00	164.93	187.10	196.91	206.93	196.98	7.75	
228.00	164.97	190.79	200.64	210.69	200.70	7.77	
229.00	165.01	193.42	203.31	213.37	203.36	7.80	
230.00	165.05	194.96	204.89	214.98	204.94	7.82	
231.00	165.08	196.35	206.32	216.43	206.36	7.84	

RUN NO. 16

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: EQUATORIAL (1)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 360 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.84	132.54	132.70	132.87	132.70	0.13	0.30
5.62	135.66	134.71	135.75	136.93	135.80	0.87	1.67
9.45	138.56	136.78	138.68	141.11	138.85	1.70	2.81
15.09	141.91	139.40	142.10	145.98	142.47	2.59	4.49
18.72	142.60	140.82	143.83	148.37	144.31	2.97	5.57
24.39	142.76	142.71	146.06	151.35	146.66	3.41	7.25
30.67	142.68	144.47	148.04	153.87	148.74	3.71	9.12
35.93	145.02	145.76	149.45	155.56	150.20	3.87	10.68
40.90	150.12	146.84	150.61	156.94	151.41	3.99	12.16
45.96	151.12	147.84	151.67	158.18	152.51	4.09	13.67
50.67	151.95	148.69	152.57	159.21	153.43	4.16	15.07
55.60	152.78	149.55	153.47	160.23	154.35	4.22	16.59
60.47	153.47	150.26	154.22	161.05	155.12	4.27	17.98
65.91	154.22	151.03	155.04	161.94	155.94	4.31	19.60
70.61	154.84	151.69	155.74	162.69	156.65	4.35	21.05
75.85	155.43	152.33	156.42	163.41	157.32	4.38	22.56
80.77	155.97	152.91	157.02	164.05	157.93	4.41	24.02
85.81	156.50	153.49	157.63	164.69	158.54	4.43	25.52
90.65	156.97	154.02	158.19	165.28	159.10	4.45	26.96
95.99	157.47	154.59	158.78	165.91	159.70	4.48	28.54
100.59	157.87	155.06	159.27	166.43	160.19	4.50	29.91
105.56	158.29	155.55	159.80	167.00	160.72	4.53	31.39
110.95	158.72	156.08	160.37	167.63	161.29	4.56	32.99
115.79	159.09	156.57	160.90	168.21	161.83	4.60	34.43
120.89	159.47	157.08	161.47	168.86	162.41	4.66	35.95
125.90	159.82	157.54	162.01	169.48	162.95	4.72	37.44
130.99	160.16	157.96	162.51	170.06	163.45	4.78	38.95
135.75	160.47	158.33	162.95	170.57	163.88	4.83	40.37
140.75	160.78	158.70	163.39	171.08	164.32	4.89	41.85
145.99	161.10	159.06	163.83	171.59	164.76	4.95	43.41
150.86	161.39	159.38	164.22	172.06	165.16	5.00	44.86
155.96	161.67	159.70	164.63	172.55	165.56	5.07	46.38
160.76	161.94	159.98	165.00	173.00	165.93	5.14	47.80
165.65	162.20	160.26	165.37	173.46	166.30	5.20	49.26
170.73	162.46	160.55	165.75	173.94	166.68	5.28	50.77
175.98	162.72	160.78	166.13	174.44	167.05	5.38	52.33
180.84	162.96	161.00	166.47	174.91	167.40	5.48	53.77
185.86	163.20	161.22	166.82	175.40	167.75	5.58	55.27
190.92	163.43	161.44	167.17	175.89	168.10	5.69	56.77
195.65	163.64	161.85	167.78	176.66	168.70	5.83	58.18
200.53	163.86	162.32	168.39	177.39	169.30	5.93	59.63
205.57	164.07	162.79	168.97	178.09	169.89	6.02	61.13
210.78	164.29	163.30	169.64	178.89	170.55	6.13	62.68
215.93	164.50	163.80	170.34	179.71	171.23	6.25	64.21
220.93	164.70	164.26	170.95	180.42	171.82	6.35	65.70
221.84	164.73	164.35	171.05	180.55	171.92	6.36	65.97
225.28	164.87	164.66	171.48	181.08	172.35	6.45	66.99
229.00	164.89	164.74	171.59	181.22	172.46	6.47	67.20
227.10	164.94	164.85	171.76	181.42	172.62	6.50	67.53
228.26	164.98	164.96	171.93	181.62	172.78	6.54	67.87
229.06	165.01	165.04	172.04	181.76	172.89	6.56	68.11
229.67	165.03	165.10	172.13	181.86	172.97	6.58	68.29

230.14	165.05	165.68	172.73	182.48	173.57	6.59	68.43
230.52	165.06	166.33	173.40	183.16	174.24	6.60	68.55
230.83	165.08	166.81	173.89	183.66	174.73	6.61	68.64
231.00	165.08	167.03	174.12	183.90	174.96	6.62	68.69
231.63	165.11	167.60	174.74	184.55	175.57	6.65	68.88
232.09	165.12	168.63	175.78	185.60	176.61	6.66	69.02
235.93	165.27	177.23	184.49	194.42	185.32	6.74	
238.00	165.34	182.04	189.52	199.62	190.34	6.89	
239.00	165.38	184.32	191.95	202.13	192.75	6.98	
240.00	165.41	186.53	194.27	204.52	195.05	7.06	
241.00	165.45	188.37	196.20	206.53	196.98	7.12	
242.00	165.49	189.97	197.86	208.27	198.65	7.17	
243.00	165.52	191.28	199.33	209.80	200.08	7.26	
244.00	165.56	192.45	200.64	211.19	201.38	7.34	
174.26	162.64	155.92	162.93	171.05	163.27	5.91	51.82
175.99	162.72	155.53	160.69	168.96	161.66	5.30	52.33
177.62	162.80	155.39	160.18	168.62	161.32	5.24	52.82
181.00	162.97	156.14	163.35	172.13	163.84	6.26	53.82
181.05	162.97	156.15	163.46	172.25	163.92	6.30	53.84
184.57	163.14	187.29	196.71	205.85	196.62	7.25	54.88
185.99	163.20	161.58	171.11	180.38	171.33	7.35	55.31
188.17	163.30	156.40	164.04	173.52	164.61	6.70	55.96
190.99	163.43	155.61	161.42	171.21	162.72	6.10	56.79
191.86	163.47	155.76	161.34	171.25	162.69	6.14	57.05
195.63	163.64	156.49	164.69	175.09	165.38	7.28	58.17
196.00	163.66	156.60	165.42	175.89	165.94	7.54	58.28
199.51	163.81	184.40	195.34	206.19	195.31	8.51	59.33
201.00	163.88	161.83	172.85	183.75	172.81	8.56	59.77
203.50	163.98	156.88	165.48	176.46	166.22	7.67	60.51
206.00	164.09	156.53	163.20	174.27	164.57	7.01	61.26
207.64	164.16	156.60	163.04	174.15	164.49	6.94	61.74
210.56	164.20	157.44	164.85	176.08	166.04	7.34	62.61
211.00	164.30	157.62	165.36	176.61	166.46	7.46	62.74
212.12	164.34	158.14	166.98	178.28	167.75	7.89	63.08
213.10	164.38	158.64	168.78	180.13	169.16	8.40	63.37
213.80	164.41	159.01	170.22	181.60	170.27	8.83	63.57
214.32	164.43	159.39	171.34	182.75	171.17	9.13	63.73
214.72	164.45	160.22	172.20	183.63	172.03	9.15	63.85
215.05	164.46	160.83	172.84	184.28	172.56	9.16	63.95
215.32	164.47	161.23	173.31	184.80	173.13	9.21	64.03
216.00	164.50	161.98	174.10	185.61	173.91	9.23	64.23
216.00	164.50	161.99	174.10	185.61	173.91	9.23	64.23
216.41	164.52	163.03	175.17	186.69	174.98	9.24	64.35
219.79	164.65	171.65	183.95	195.59	183.74	9.35	
222.00	164.74	180.00	192.45	204.15	192.22	9.44	
223.00	164.78	183.78	196.30	208.02	196.05	9.47	
224.00	164.82	187.57	203.15	211.90	199.89	9.50	
225.00	164.85	191.37	204.00	215.77	203.73	9.54	
226.00	164.89	194.94	207.64	219.44	207.36	9.57	
227.00	164.93	196.46	209.21	221.06	208.93	9.61	

RUN NO. 17

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 1000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: CONTINENTAL SUBTROPICAL (2)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.65	135.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.96	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.61	156.92	151.41	3.98	12.18
45.88	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.68	152.56	159.17	153.41	4.15	15.07
55.91	152.80	149.55	153.47	160.21	154.35	4.22	16.63
60.48	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.79	154.20	150.99	155.00	161.88	155.90	4.31	19.56
70.81	154.84	151.65	155.70	162.64	156.60	4.34	21.06
75.91	155.44	152.29	156.37	163.36	157.28	4.38	22.57
80.77	155.97	152.86	156.98	164.00	157.89	4.40	24.02
85.85	156.50	153.44	157.58	164.64	158.49	4.43	25.53
90.67	156.97	153.96	158.12	165.22	159.04	4.45	26.96
95.97	157.47	154.50	158.69	165.82	159.61	4.48	28.54
100.63	157.88	154.95	159.17	166.34	160.09	4.50	29.92
105.60	158.29	155.39	159.66	166.88	160.58	4.54	31.40
110.99	158.73	155.80	160.16	167.44	161.07	4.60	33.00
115.81	159.09	156.04	160.56	167.95	161.45	4.70	34.44
120.94	159.47	156.06	160.94	168.53	161.78	4.91	35.96
125.90	159.82	156.30	161.61	169.40	162.38	5.15	37.44
130.93	160.16	156.98	162.63	170.55	163.34	5.33	38.93
135.75	160.47	157.57	163.49	171.49	164.14	5.46	40.37
140.84	160.79	158.19	164.40	172.47	164.98	5.59	41.88
145.91	161.10	158.76	165.22	173.34	165.74	5.71	43.39
150.90	161.39	159.33	166.06	174.20	166.50	5.82	44.87
155.88	161.67	159.87	166.88	175.03	167.24	5.93	46.35
160.71	161.93	160.38	167.64	175.81	167.92	6.03	47.79
165.73	162.20	160.90	168.51	176.69	168.69	6.17	49.28
170.97	162.47	161.39	169.31	177.56	169.41	6.31	50.84
175.86	162.72	161.87	170.18	178.46	170.18	6.49	52.30
180.88	162.96	162.30	170.97	179.44	170.91	6.69	53.79
185.90	163.20	162.73	171.85	180.58	171.73	6.97	55.28
190.66	163.42	163.10	172.63	181.62	172.46	7.24	56.70
195.58	163.64	163.41	173.45	182.92	173.27	7.63	58.16
200.67	163.86	163.66	174.26	184.40	174.12	8.10	59.67
205.95	164.09	164.11	175.10	185.47	174.91	8.34	61.24
210.90	164.28	164.55	175.90	186.42	175.64	8.54	62.71
213.64	164.40	164.79	176.29	186.89	176.01	8.64	63.53
215.96	164.50	164.99	176.70	187.36	176.37	8.74	64.22
218.77	164.53	165.07	176.85	187.53	176.51	8.78	64.46
218.44	164.60	165.22	177.13	187.87	176.76	8.85	64.96
219.49	164.64	165.31	177.31	188.07	176.92	8.90	65.27
220.23	164.67	165.37	177.43	188.22	177.03	8.93	65.49
220.78	164.69	165.42	177.52	188.32	177.12	8.95	65.65
221.00	164.70	165.44	177.55	188.37	177.15	8.96	65.72
221.22	164.71	165.46	177.59	188.41	177.18	8.97	65.78

221.57	164.72	165.49	177.65	188.48	177.24	8.99	65.89
221.86	164.73	165.52	177.71	188.55	177.29	9.00	65.97
221.58	164.76	165.58	177.86	188.75	177.43	9.05	66.19
223.01	164.78	165.62	177.92	188.82	177.48	9.07	66.32
225.90	164.89	168.47	180.94	191.91	180.48	9.16	67.17
226.58	164.92	170.07	182.60	193.58	182.12	9.19	
229.00	165.01	178.67	191.40	202.44	190.87	9.29	
230.00	165.05	182.24	195.04	206.10	194.50	9.33	
231.00	165.08	185.78	198.66	209.75	198.10	9.37	
232.00	165.12	187.64	200.67	211.70	200.01	9.41	
233.00	165.16	189.25	202.24	213.40	201.67	9	
234.00	165.19	190.68	203.73	214.92	203.15		

RUN NO. 18

JOHNSON & GIFFHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA: 0 FT

CLIMATE: MARITIME SUBTROPICAL (3)

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST LIT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 370 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.81	135.66	134.71	135.75	136.93	135.79	0.87	1.67
9.47	138.57	136.78	138.69	141.15	138.86	1.71	2.82
15.06	141.90	139.38	142.08	145.98	142.45	2.59	4.48
18.71	143.60	140.81	143.83	148.39	144.31	2.98	5.56
24.47	145.79	142.72	146.08	151.40	146.69	3.42	7.28
30.66	147.67	144.46	148.04	153.87	148.74	3.72	9.12
35.91	149.01	145.75	149.44	155.57	150.20	3.88	10.60
40.87	150.11	146.84	150.61	156.94	151.41	3.99	12.15
45.89	151.12	147.84	151.68	158.19	152.51	4.09	13.68
50.67	151.95	148.69	152.57	159.21	153.43	4.16	15.07
55.77	152.78	149.53	153.46	160.22	154.34	4.23	16.58
60.46	153.47	150.24	154.21	161.05	155.11	4.27	17.98
65.95	154.22	151.02	155.04	161.93	155.93	4.32	19.61
70.81	154.84	151.66	155.72	162.66	156.62	4.35	21.06
75.24	155.43	152.29	156.38	163.37	157.28	4.38	22.55
80.78	155.97	152.88	156.99	164.07	157.90	4.41	24.02
85.79	156.50	153.44	157.58	164.65	158.50	4.43	25.51
90.65	156.97	153.96	158.13	165.23	159.05	4.46	26.96
95.99	157.47	154.51	158.70	165.84	159.62	4.48	28.54
100.58	157.87	154.95	159.17	166.34	160.09	4.50	29.91
105.55	158.29	155.40	159.66	166.87	160.58	4.53	31.39
110.94	158.72	155.83	160.14	167.42	161.07	4.58	32.99
115.79	159.05	156.13	160.54	167.89	161.46	4.64	34.43
120.88	159.46	156.32	160.89	168.37	161.80	4.76	35.94
125.90	159.82	156.41	161.23	168.86	162.11	4.90	37.44
130.97	160.16	156.54	161.59	169.36	162.44	5.05	38.95
135.76	160.47	156.97	162.19	170.08	163.02	5.16	40.37
140.73	160.78	157.47	162.82	170.81	163.64	5.25	41.85
145.97	161.10	158.07	163.63	171.71	164.41	5.36	43.41
150.86	161.39	158.58	164.29	172.44	165.05	5.45	44.86
155.93	161.67	159.06	164.90	173.13	165.65	5.52	46.37
160.79	161.94	159.56	165.55	173.84	166.27	5.60	47.81
165.64	162.20	160.07	166.25	174.57	166.91	5.69	49.25
170.68	162.46	160.54	166.84	175.23	167.49	5.76	50.75
175.93	162.72	161.03	167.48	175.94	168.11	5.85	52.32
180.85	162.96	161.53	168.19	176.71	168.77	5.94	53.78
185.83	163.19	161.96	168.78	177.42	169.35	6.05	55.26
190.98	163.43	162.40	169.42	178.21	169.98	6.19	56.79
195.72	163.64	162.82	170.12	179.04	170.63	6.35	58.20
200.54	163.86	163.14	170.68	179.90	171.21	6.56	59.63
205.51	164.07	163.43	171.37	181.00	171.90	6.87	61.11
210.65	164.28	163.90	172.10	181.84	172.59	7.02	62.64
215.97	164.50	164.35	172.69	182.54	173.16	7.11	64.22
220.89	164.69	164.81	173.46	183.44	173.88	7.28	65.69
224.37	164.83	165.11	173.90	183.95	174.30	7.37	66.72
225.97	164.89	165.24	174.08	184.18	174.47	7.40	67.19
227.90	164.97	165.41	174.28	184.43	174.68	7.44	67.77
229.78	165.04	165.57	174.54	184.73	174.92	7.49	68.33
230.96	165.08	165.68	174.76	184.99	175.12	7.54	68.68
231.00	165.08	165.69	174.76	184.99	175.12	7.55	68.69
231.79	165.11	165.76	174.90	185.15	175.25	7.58	68.93

232.41	165.14	165.82	175.00	185.27	175.34	7.60	69.11
232.89	165.15	165.86	175.08	185.36	175.41	7.62	69.25
233.24	165.17	165.90	175.14	185.43	175.47	7.63	69.37
233.61	165.18	165.93	175.19	185.49	175.51	7.65	69.47
234.43	165.21	166.00	175.35	185.69	175.66	7.69	69.71
234.90	165.23	166.05	175.41	185.76	175.72	7.70	69.85
235.99	165.27	166.70	176.11	186.48	176.41	7.73	70.18
238.83	165.37	172.32	182.19	192.78	182.42	8.00	
241.00	165.45	176.24	186.34	197.11	186.55	8.16	
242.00	165.49	177.86	188.23	199.10	188.39	8.30	
243.00	165.62	179.90	190.43	201.39	190.56	8.40	
244.00	165.56	181.64	192.26	203.31	192.40	8.47	
245.00	165.59	183.03	193.84	204.98	193.94	8.57	
246.00	165.63	184.20	195.23	206.46	195.29	8.70	
247.00	165.66	185.32	196.48	207.79	196.53	8.78	

RUN NO. 19

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 130 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NM

TERRAIN DELTA: 0 FT

CLIMATE: DESERT (4)

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST INT: DETERMINED AT 10 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.67	135.70	134.77	135.79	136.94	135.83	0.85	1.68
9.37	138.50	136.79	138.62	140.95	138.78	1.63	2.79
15.27	142.00	139.51	142.18	146.01	142.54	2.55	4.54
18.75	143.62	140.86	143.84	148.30	144.30	2.93	5.58
24.05	145.65	142.63	145.93	151.11	146.51	3.34	7.15
30.74	147.70	144.50	148.06	153.82	148.74	3.68	9.14
35.94	149.02	145.77	149.44	155.51	150.19	3.85	10.69
40.98	150.14	146.87	150.62	156.91	151.41	3.97	12.19
45.84	151.10	147.82	151.64	158.10	152.47	4.06	13.63
50.69	151.96	148.70	152.57	159.17	153.42	4.14	15.07
55.98	152.81	149.57	153.49	160.22	154.37	4.21	16.65
60.50	153.48	150.26	154.22	161.03	155.11	4.26	17.99
65.74	154.20	151.01	155.01	161.89	155.91	4.30	19.55
70.82	154.84	151.68	155.72	162.66	156.63	4.34	21.06
75.93	155.44	152.32	156.40	163.39	157.31	4.38	22.58
80.77	155.97	152.90	157.01	164.04	157.92	4.40	24.02
85.87	156.50	153.49	157.63	164.69	158.54	4.43	25.54
90.69	156.98	154.02	158.18	165.28	159.10	4.45	26.97
95.98	157.47	154.58	158.77	165.90	159.69	4.48	28.54
100.64	157.88	155.05	159.27	166.44	160.19	4.50	29.93
105.64	158.30	155.53	159.80	167.02	160.72	4.54	31.41
110.97	158.72	156.00	160.36	167.66	161.28	4.61	33.00
115.82	159.09	156.34	160.89	168.32	161.79	4.73	34.44
121.00	159.47	156.50	161.44	169.12	162.29	4.97	35.98
125.92	159.82	156.53	161.92	169.83	162.71	5.23	37.44
130.87	160.15	156.97	162.71	170.85	163.46	5.45	38.92
135.77	160.47	157.59	163.69	171.98	164.37	5.65	40.37
140.94	160.80	158.19	164.60	173.03	165.23	5.82	41.91
145.89	161.10	158.76	165.50	174.01	166.06	5.97	43.38
150.97	161.39	159.34	166.39	174.97	166.87	6.12	44.89
155.79	161.66	159.87	167.23	175.90	167.64	6.27	46.33
160.73	161.94	160.40	168.10	176.85	168.43	6.43	47.79
165.87	162.21	160.93	168.96	177.79	169.21	6.59	49.32
170.90	162.47	161.44	169.87	178.76	170.01	6.77	50.82
175.88	162.72	161.90	170.65	179.73	170.76	6.97	52.30
180.96	162.96	162.36	171.58	180.88	171.61	7.23	53.81
185.71	163.19	162.75	172.35	181.90	172.33	7.48	55.22
190.62	163.42	163.11	173.17	183.06	173.12	7.79	56.68
195.70	163.64	163.42	174.02	184.48	173.98	8.23	58.20
201.00	163.88	163.79	174.81	185.71	174.78	8.56	59.77
205.92	164.09	164.24	175.64	186.70	175.53	8.77	61.23
207.63	164.16	164.39	175.92	187.03	175.79	8.84	61.71
210.56	164.28	164.65	176.37	187.61	176.22	8.97	62.61
210.98	164.30	164.69	176.44	187.63	176.28	8.99	62.74
212.12	164.34	164.79	176.61	187.92	176.45	9.03	63.08
213.10	164.38	164.88	176.76	188.11	176.59	9.08	63.37
213.80	164.41	164.94	176.86	188.24	176.69	9.10	63.57
214.32	164.43	164.98	176.94	188.35	176.77	9.13	63.73
214.72	164.45	165.02	177.00	188.43	176.83	9.15	63.85
215.05	164.46	165.05	177.06	188.50	176.88	9.16	63.95
215.32	164.47	165.08	177.16	188.65	176.97	9.21	64.03

210.00	164.50	165.14	177.25	188.76	177.06	9.23	64.23
216.00	164.50	165.14	177.25	188.76	177.06	9.23	64.23
216.41	164.52	165.17	177.31	188.83	177.12	9.24	64.35
219.79	164.65	171.65	183.95	195.59	183.74	9.35	
222.00	164.74	180.00	192.45	204.15	192.22	9.44	
223.00	164.78	183.78	196.30	208.02	196.05	9.47	
224.00	164.82	187.57	200.15	211.90	199.89	9.50	
225.00	164.85	191.37	204.00	215.77	203.73	9.54	
226.00	164.89	194.94	207.64	219.44	207.36	9.57	
227.00	164.93	196.46	209.21	221.06	208.93	9.61	
185.99	162.22	155.15	159.80	167.22	160.67	4.76	49.36
167.77	162.31	155.69	162.43	170.00	162.69	5.59	49.89
170.98	162.47	185.97	194.14	201.96	194.03	6.25	50.84
171.00	162.47	185.88	193.85	201.68	193.75	6.25	50.85
174.26	162.64	155.92	162.93	171.05	163.27	5.91	51.82
175.99	162.72	155.53	160.69	168.96	161.66	5.30	52.33
177.62	162.80	155.39	160.18	168.62	161.32	5.24	52.82
181.00	162.97	156.14	163.35	172.13	163.84	6.26	53.82
181.05	162.97	156.15	163.46	172.25	163.92	6.30	53.84
184.57	163.14	187.29	196.71	205.85	196.62	7.25	54.88
185.99	163.20	161.58	171.11	180.38	171.03	7.35	55.31
188.17	163.30	156.40	164.04	173.52	164.61	6.70	55.96
190.99	163.43	155.81	161.42	171.21	162.72	6.10	56.79
191.86	163.47	155.76	161.34	171.25	162.69	6.14	57.05
195.63	163.64	156.49	164.69	175.09	165.38	7.28	58.17
196.00	163.66	156.60	165.42	175.89	165.94	7.54	58.28
199.51	163.81	184.40	195.34	205.19	195.31	8.51	59.33
201.00	163.88	161.83	172.85	183.75	172.81	8.56	59.77
203.50	163.98	156.88	165.48	176.46	166.22	7.67	60.51
206.00	164.09	156.53	163.20	174.27	164.57	7.01	61.26
207.64	164.16	156.60	163.04	174.15	164.49	6.94	61.74
210.56	164.28	157.44	164.85	176.08	166.04	7.34	62.61
211.00	164.30	157.62	165.36	176.61	166.46	7.46	62.74
212.14	164.34	158.14	166.98	178.18	167.75	7.89	63.08
213.10	164.38	158.64	168.78	180.13	169.16	8.40	63.37
215.80	164.41	159.01	170.22	181.60	170.27	8.83	63.57
214.32	164.43	159.39	171.34	182.75	171.17	9.13	63.73
214.72	164.45	160.22	172.20	183.83	172.03	9.15	63.85
215.05	164.46	160.83	172.84	184.28	172.66	9.16	63.95
215.32	164.47	161.23	173.31	184.80	173.13	9.21	64.03
216.00	164.50	161.98	174.10	185.61	173.91	9.23	64.23
216.41	164.52	163.03	175.17	186.69	174.98	9.24	64.35
219.79	164.65	171.65	183.95	195.59	183.74	9.35	
222.00	164.74	180.00	192.45	204.15	192.22	9.44	
223.00	164.78	183.78	196.30	208.02	196.05	9.47	
224.00	164.82	187.57	200.15	211.90	199.89	9.50	
225.00	164.85	191.37	204.00	215.77	203.73	9.54	
226.00	164.89	194.94	207.64	219.44	207.36	9.57	
227.00	164.93	196.46	209.21	221.06	208.93	9.61	

RUN NO. 20

JOHNSON & GIERHART CLIMATE RUN DATA

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: CONTINENTAL TEMPERATE (6)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST INT. DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.65	135.69	134.75	135.77	136.94	135.81	0.86	1.68
9.40	138.52	136.78	138.64	141.01	138.80	1.66	2.80
15.19	141.96	139.47	142.15	146.00	142.51	2.57	4.52
18.73	143.61	140.84	143.83	148.32	144.30	2.94	5.57
24.17	145.69	142.65	145.97	151.20	146.57	3.37	7.19
30.71	147.69	144.48	148.05	153.83	148.74	3.69	9.13
35.99	149.03	145.77	149.45	155.54	150.20	3.86	10.70
40.97	150.13	146.86	150.61	156.92	151.41	3.98	12.18
45.88	151.10	147.82	151.64	158.12	152.47	4.07	13.64
50.68	151.96	148.66	152.55	159.17	153.41	4.15	15.07
55.91	152.80	149.55	153.47	160.21	154.35	4.22	16.63
60.48	153.48	150.24	154.20	161.02	155.09	4.26	17.99
65.79	154.20	150.99	155.00	161.88	155.89	4.31	19.56
70.81	154.84	151.65	155.70	162.64	156.60	4.34	21.06
75.91	155.44	152.29	156.37	163.35	157.28	4.38	22.57
80.77	155.97	152.86	156.97	164.00	157.88	4.40	24.02
85.65	156.50	153.43	157.58	164.64	158.49	4.43	25.53
90.67	156.97	153.95	158.12	165.22	159.03	4.45	26.96
95.97	157.47	154.49	158.69	165.82	159.60	4.48	28.54
100.63	157.88	154.94	159.17	166.33	160.08	4.51	29.92
105.60	158.29	155.37	159.65	166.87	160.57	4.54	31.40
110.99	158.73	155.76	160.15	167.43	161.05	4.61	33.00
115.81	159.09	155.94	160.54	167.93	161.41	4.73	34.44
120.94	159.47	155.84	160.92	168.50	161.70	4.98	35.96
125.90	159.82	156.48	162.00	169.75	162.70	5.21	37.44
130.93	160.16	157.19	163.11	170.93	163.70	5.38	38.93
135.75	160.47	157.79	163.98	171.83	164.50	5.50	40.37
140.84	160.79	158.35	164.76	172.67	165.23	5.61	41.88
145.91	161.10	158.93	165.62	173.55	166.01	5.72	43.39
150.90	161.39	159.46	166.39	174.34	166.71	5.82	44.87
155.88	161.67	159.94	167.06	175.07	167.34	5.91	46.35
160.71	161.93	160.44	167.84	175.85	168.03	6.02	47.79
165.73	162.20	160.92	168.58	176.60	168.69	6.13	49.28
170.97	162.47	161.38	169.25	177.39	169.34	6.25	50.84
175.86	162.72	161.83	170.01	178.23	170.03	6.41	52.30
180.88	162.96	162.26	170.74	179.14	170.71	6.59	53.79
185.90	163.20	162.65	171.37	180.05	171.36	6.80	55.28
190.66	163.42	163.02	172.07	180.98	172.02	7.02	56.70
195.58	163.64	163.31	172.76	182.10	172.73	7.34	58.16
200.67	163.86	163.55	173.35	183.30	173.40	7.72	59.67
205.95	164.09	163.99	174.01	184.14	174.05	7.87	61.24
210.90	164.29	164.42	174.71	184.99	174.71	8.03	62.71
215.64	164.40	164.66	175.05	185.41	175.04	8.10	63.53
219.96	164.50	164.86	175.32	185.75	175.31	8.16	64.22
216.77	164.53	164.93	175.41	185.86	175.40	8.18	64.46
218.44	164.60	165.07	175.60	186.10	175.59	8.22	64.96
219.49	164.64	165.16	175.71	186.25	175.70	8.24	65.27
220.23	164.67	165.22	175.79	186.35	175.79	8.25	65.49
220.78	164.69	165.26	175.86	186.43	175.85	8.27	65.65
221.00	164.70	165.28	175.88	186.46	175.87	8.27	65.72
221.22	164.71	165.30	175.90	186.49	175.90	8.28	65.78

221.57	164.72	165.33	175.95	186.55	175.94	8.29	65.89
221.86	164.73	165.36	175.99	186.60	175.98	8.30	65.97
222.58	164.76	165.43	176.15	186.80	176.12	8.35	66.19
223.01	164.78	165.46	176.21	186.87	176.18	8.36	66.32
225.90	164.89	170.07	180.97	191.71	180.92	8.45	57.17
226.58	164.92	171.70	182.63	193.38	182.57	8.47	
229.00	165.01	180.41	191.43	202.24	191.36	8.53	
230.00	165.05	184.01	195.07	205.90	195.00	8.55	
231.00	165.08	187.60	198.69	209.54	198.61	8.57	
232.00	165.12	189.48	200.60	211.48	200.53	8.59	
233.00	165.16	191.13	202.28	213.18	202.20	8.61	
234.00	165.19	192.59	203.76	214.68	203.68	8.63	

RUN NO. 21

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCES: DETERMINED AT 3.9 NMI

TERRAIN DELTA: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME TEMPERATE OCEANIC (7)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 9.0002

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HGT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.81	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.61	149.45	0.12	10.70
40.97	150.13	150.47	150.62	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.41	152.56	152.71	152.56	0.12	15.07
55.91	152.80	153.32	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.36	154.21	0.12	17.99
65.79	154.20	154.85	155.00	155.16	155.00	0.12	19.56
70.81	154.84	155.55	155.70	155.86	155.71	0.12	21.06
75.91	155.44	156.22	156.38	156.54	156.38	0.12	22.57
80.77	155.97	156.82	156.98	157.15	156.98	0.13	24.02
85.85	156.50	157.42	157.59	157.76	157.59	0.13	25.53
90.67	156.97	157.95	158.13	158.31	158.13	0.14	26.96
95.97	157.47	158.51	158.71	158.90	158.71	0.16	28.54
100.63	157.88	158.72	159.19	159.67	159.20	0.37	29.92
105.60	158.29	158.83	159.69	160.63	159.72	0.71	31.40
110.99	158.73	158.95	160.21	161.64	160.26	1.05	33.00
115.81	159.09	159.02	160.66	162.53	160.73	1.37	34.44
120.94	159.47	158.99	161.11	163.52	161.20	1.77	35.96
125.90	159.82	158.95	161.54	164.43	161.63	2.14	37.44
130.93	160.16	158.99	161.96	165.29	162.07	2.46	38.93
135.75	160.47	159.10	162.37	166.08	162.51	2.73	40.37
140.84	160.79	159.26	162.79	166.88	162.97	2.98	41.88
145.91	161.10	159.38	163.20	167.67	163.40	3.24	43.39
150.90	161.39	159.70	163.83	168.65	164.05	3.50	44.87
155.88	161.67	160.08	164.48	169.65	164.72	3.74	46.35
160.71	161.93	160.43	165.06	170.55	165.33	3.96	47.79
165.73	162.20	160.79	165.66	171.54	165.97	4.20	49.28
170.97	162.47	161.21	166.46	172.74	166.78	4.51	50.84
175.86	162.72	161.58	167.10	173.76	167.45	4.77	52.30
180.88	162.96	161.93	167.70	174.77	168.11	5.03	53.79
185.90	163.20	162.21	168.35	175.90	168.82	5.33	55.28
190.66	163.42	162.66	169.08	177.10	169.58	5.66	56.70
195.58	163.64	162.88	169.72	178.32	170.27	6.05	58.16
200.67	163.86	163.02	170.32	179.64	170.95	6.51	59.67
205.95	164.09	163.51	171.12	180.63	171.71	6.70	61.24
210.90	164.29	163.97	171.80	181.47	172.29	6.85	62.71
213.64	164.40	164.22	172.16	181.92	172.73	6.92	63.53
215.96	164.50	164.43	172.46	182.27	173.02	6.98	64.22
216.77	164.53	164.50	172.56	182.39	173.11	7.00	64.46
218.44	164.60	164.65	172.75	182.64	173.31	7.04	64.90
219.49	164.64	164.74	172.87	182.79	173.43	7.07	65.27
220.23	164.67	164.81	172.99	182.94	173.54	7.09	65.49
220.78	164.69	164.87	173.10	183.05	173.64	7.12	65.65
221.00	164.70	164.89	173.14	183.11	173.68	7.13	65.72
221.22	164.71	164.91	173.18	183.16	173.71	7.14	65.78

221.57	164.72	164.95	173.24	183.24	173.77	7.16	65.89
221.86	164.73	164.98	173.30	183.31	173.83	7.17	65.97
221.88	164.73	164.98	173.31	183.32	173.83	7.17	65.98
223.01	164.78	166.65	175.09	185.14	175.59	7.23	66.32
225.62	164.89	174.93	183.52	193.66	184.01	7.32	
228.00	164.97	182.84	191.53	201.73	192.00	7.38	
229.00	165.01	186.48	195.21	205.43	195.68	7.41	
230.00	165.05	190.12	198.89	209.13	199.35	7.43	
231.00	165.08	192.66	201.46	211.73	201.92	7.46	
232.00	165.12	194.35	203.18	213.49	203.64	7.49	
233.00	165.16	195.65	204.71	215.06	205.17	7.51	

RUN NO. 22

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: MARITIME TEMPERATE OVERSEA (8)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.89	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.61	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.55	0.12	15.07
55.91	152.80	153.31	153.46	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.35	154.20	0.12	17.99
65.79	154.20	154.84	154.99	155.15	154.99	0.12	19.56
70.81	154.84	155.54	155.70	155.85	155.70	0.12	21.05
75.91	155.44	156.20	156.37	156.53	156.36	0.13	22.57
80.77	155.97	156.79	156.97	157.13	156.97	0.13	24.02
85.85	156.50	157.38	157.57	157.74	157.56	0.14	25.53
90.67	156.97	157.90	158.11	158.30	158.10	0.16	26.96
95.97	157.47	158.42	158.60	158.80	158.66	0.18	28.54
100.63	157.88	158.63	159.15	159.65	159.14	0.40	29.92
105.60	158.29	158.71	159.63	160.59	159.64	0.73	31.40
110.99	158.73	158.76	160.12	161.57	160.15	1.10	33.00
115.81	159.09	158.63	160.49	162.44	160.52	1.49	34.44
120.84	159.47	158.27	160.84	163.40	160.84	2.00	35.96
125.90	159.82	158.02	161.18	164.31	161.17	2.46	37.44
130.93	160.16	158.37	162.04	165.68	162.03	2.86	38.93
135.75	160.47	158.77	162.88	166.96	162.87	3.20	40.37
140.84	160.79	159.16	163.62	168.15	163.64	3.51	41.88
145.91	161.10	159.55	164.32	169.28	164.38	3.80	43.39
150.90	161.39	159.96	165.14	170.50	165.20	4.12	44.87
155.88	161.67	160.34	165.81	171.60	165.91	4.40	46.35
160.71	161.93	160.69	166.42	172.64	166.57	4.67	47.79
165.73	162.20	161.09	167.24	173.92	167.41	5.01	49.28
170.97	162.47	161.47	167.89	175.04	168.12	5.30	50.84
175.86	162.72	161.84	168.56	176.18	168.84	5.61	52.30
180.88	162.96	162.22	169.32	177.48	169.65	5.96	53.79
185.90	163.20	162.57	169.92	178.63	170.34	6.28	55.28
190.66	163.42	162.92	170.66	179.88	171.12	6.63	56.70
195.58	163.64	163.18	171.34	181.24	171.89	7.07	58.16
200.67	163.86	163.35	171.92	182.60	172.58	7.53	59.67
205.95	164.09	163.82	172.82	183.81	173.44	7.82	61.24
210.90	164.29	164.25	173.41	184.65	174.06	7.98	62.71
213.64	164.40	164.50	173.77	185.19	174.44	8.10	63.53
215.96	164.50	164.72	174.20	185.76	174.85	8.23	64.22
216.77	164.53	164.79	174.33	185.94	174.98	8.28	64.46
218.44	164.60	164.94	174.59	186.29	175.22	8.35	64.96
219.49	164.64	165.04	174.72	186.49	175.37	8.40	65.27
220.23	164.67	165.10	174.82	186.63	175.47	8.43	65.49
220.78	164.69	165.15	174.89	186.74	175.55	8.45	65.65
221.00	164.70	165.17	174.91	186.78	175.58	8.46	65.72
221.22	164.71	165.19	174.94	186.82	175.60	8.47	65.78

221.57	164.72	165.22	174.99	186.89	175.65	8.48	65.89
221.86	164.73	165.24	175.03	186.96	175.70	8.50	65.97
221.88	164.73	165.25	175.04	186.97	175.70	8.50	65.98
223.01	164.78	165.35	175.20	187.22	175.87	8.56	66.32
225.82	164.89	171.56	181.54	193.70	182.22	8.66	
228.00	164.97	179.33	189.49	201.77	190.15	8.78	
229.00	165.01	182.92	193.15	205.47	193.80	8.82	
230.00	165.05	186.52	196.80	209.17	197.45	8.96	
231.00	165.08	189.02	199.35	211.76	200.00	8.90	
232.00	165.12	190.68	201.04	213.50	201.70	8.93	
233.00	165.16	192.15	202.54	215.06	203.20	8.96	

RUN NO. 23

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: CONTINENTAL JUL YEAR (0)

SURFACE REFLECTION COEFF: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 411 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 30 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.66	135.89	135.83	135.78	135.93	135.78	0.12	1.68
9.39	138.51	138.48	138.63	138.79	138.63	0.12	2.79
15.23	141.98	142.02	142.17	142.32	142.17	0.12	4.53
18.74	143.61	143.69	143.83	143.99	143.84	0.12	5.57
24.10	145.67	145.80	145.95	146.10	145.95	0.12	7.17
30.72	147.69	147.90	148.05	148.20	148.05	0.12	9.14
35.98	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.99	150.14	150.47	150.62	150.77	150.62	0.12	12.19
45.86	151.10	151.49	151.64	151.79	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.55	0.12	15.07
55.95	152.81	153.32	153.47	153.62	153.47	0.12	16.64
60.49	153.48	154.05	154.20	154.36	154.20	0.12	17.99
65.77	154.20	154.84	154.99	155.15	154.99	0.12	19.56
70.81	154.84	155.54	155.70	155.85	155.70	0.12	21.06
75.92	155.44	156.21	156.37	156.53	156.37	0.12	22.58
80.77	155.97	156.81	156.97	157.14	156.97	0.13	24.02
85.87	156.50	157.40	157.58	157.74	157.57	0.14	25.53
90.68	156.98	157.92	158.12	158.30	158.11	0.15	26.96
95.97	157.47	158.45	158.69	158.88	158.68	0.17	28.54
100.95	157.90	158.68	159.20	159.71	159.20	0.41	30.02
102.31	158.02	158.70	159.34	159.97	159.34	0.50	30.42
103.89	158.15	158.73	159.50	160.28	159.50	0.60	30.89
105.52	158.29	158.75	159.65	160.58	159.66	0.72	31.38
108.00	158.33	158.76	159.70	160.67	159.71	0.75	31.52
107.18	158.42	158.78	159.81	160.90	159.83	0.83	31.87
108.89	158.56	158.80	159.97	161.21	159.99	0.94	32.38
110.64	158.70	158.81	160.13	161.53	160.15	1.06	32.90
111.00	158.73	158.81	160.16	161.59	160.19	1.08	33.01
112.44	158.84	158.81	160.28	161.85	160.31	1.19	33.43
114.28	158.98	158.79	160.44	162.18	160.47	1.32	33.98
116.00	159.11	158.73	160.58	162.48	160.60	1.46	34.49
116.17	159.12	158.73	160.59	162.51	160.61	1.48	34.54
118.11	159.26	158.63	160.74	162.86	160.74	1.65	35.12
120.10	159.41	158.51	160.89	163.22	160.87	1.84	35.71
121.00	159.47	158.52	160.95	163.38	160.95	1.90	35.98
122.14	159.55	158.55	161.04	163.58	161.06	1.96	36.32
124.23	159.70	158.62	161.20	163.95	161.25	2.08	36.94
126.00	159.82	158.67	161.33	164.25	161.41	2.18	37.47
126.38	159.85	158.68	161.36	164.31	161.44	2.20	37.58
128.59	160.00	158.75	161.53	164.68	161.64	2.32	38.24
130.85	160.15	158.82	161.70	165.05	161.85	2.43	38.91
131.00	160.16	158.83	161.71	165.07	161.86	2.44	38.95
133.17	160.30	158.91	161.88	165.41	162.05	2.54	39.60
135.56	160.46	158.99	162.06	165.78	162.26	2.65	40.31
136.00	160.49	159.01	162.09	165.84	162.30	2.68	40.44
138.00	160.61	159.07	162.24	166.15	162.47	2.77	41.04
140.51	160.77	159.16	162.43	166.53	162.69	2.89	41.78
141.00	160.80	159.18	162.47	166.60	162.73	2.91	41.93
143.08	160.93	159.25	162.62	166.92	162.91	3.00	42.55
145.72	161.09	159.35	162.82	167.30	163.13	3.12	43.33
146.00	161.10	159.36	162.84	167.34	163.16	3.13	43.41

148.43	161.25	159.44	163.02	167.69	163.36	3.23	44.14
151.00	161.39	159.53	163.21	168.06	163.57	3.34	44.90
151.20	161.41	159.54	163.22	168.09	163.59	3.35	44.96
154.05	161.57	159.64	163.43	168.50	163.83	3.48	45.81
155.99	161.68	159.70	163.57	168.78	163.99	3.56	46.39
156.97	161.73	159.73	163.64	168.92	164.07	3.60	46.68
159.96	161.89	159.83	163.85	169.35	164.31	3.74	47.57
160.99	161.95	159.86	163.92	169.50	164.39	3.78	47.87
163.03	162.06	159.92	164.07	169.80	164.56	3.88	48.48
166.00	162.22	160.01	164.27	170.23	164.80	4.01	49.36
166.18	162.22	160.02	164.29	170.26	164.82	4.02	49.41
169.40	162.39	160.11	164.51	170.73	165.08	4.17	50.37
170.99	162.47	160.16	164.52	170.96	165.21	4.24	50.85
172.70	162.56	160.20	164.74	171.21	165.34	4.32	51.35
176.00	162.72	160.29	164.97	171.69	165.61	4.48	52.33
176.08	162.73	160.29	164.97	171.70	165.61	4.48	52.36
179.54	162.90	160.38	165.21	172.24	165.90	4.66	53.39
180.99	162.97	160.41	165.31	172.48	166.02	4.75	53.82
183.09	163.07	160.46	165.45	172.83	166.19	4.87	54.44
185.99	163.20	160.52	165.65	173.31	166.44	5.03	55.31
186.72	163.24	160.53	165.70	173.43	166.50	5.08	55.52
190.44	163.41	160.58	165.95	174.05	166.80	5.30	56.63
191.00	163.43	160.57	165.98	174.14	166.84	5.34	56.79
194.25	163.58	160.48	166.16	174.72	167.06	5.60	57.76
195.99	163.66	160.43	166.27	175.04	167.19	5.75	58.28
198.15	163.75	160.35	166.47	175.55	167.39	5.98	58.92
201.00	163.88	160.35	166.82	176.17	167.72	6.22	59.77
202.16	163.93	160.39	166.97	176.35	167.84	6.27	60.11
206.00	164.09	160.29	167.03	176.50	167.88	6.36	61.26
206.29	164.10	160.27	166.99	176.47	167.85	6.36	61.34
210.58	164.28	159.66	166.15	175.73	167.12	6.32	62.62
211.00	164.30	159.60	166.11	175.70	167.07	6.33	62.74
213.59	164.40	159.35	166.43	176.08	167.23	6.56	63.51
215.20	164.47	159.31	167.28	176.97	167.81	6.91	63.99
216.00	164.50	159.31	167.90	177.62	168.26	7.16	64.23
216.22	164.51	159.32	168.10	177.83	168.39	7.23	64.30
216.93	164.54	159.44	168.79	178.53	168.91	7.46	64.51
217.47	164.56	159.95	169.33	179.09	169.45	7.47	64.67
217.89	164.58	160.35	169.75	179.52	169.86	7.49	64.79
218.23	164.59	160.66	170.07	179.85	170.19	7.50	64.89
218.51	164.60	160.83	170.32	180.12	170.43	7.52	64.98
218.52	164.60	160.88	170.33	180.13	170.44	7.52	64.98
219.63	164.64	164.22	173.74	183.58	173.84	7.56	65.31
221.00	164.70	168.38	177.95	187.82	178.04	7.59	65.72
222.36	164.75	172.50	182.13	192.03	182.21	7.63	
225.00	164.85	182.33	192.06	202.03	192.13	7.70	
226.00	164.89	186.05	195.82	205.81	195.89	7.72	
227.00	164.93	189.76	199.58	209.59	199.64	7.75	
228.00	164.97	193.12	202.97	213.01	203.03	7.77	
229.00	165.01	194.70	204.60	214.66	204.65	7.80	
230.00	165.05	196.11	206.04	216.13	206.09	7.82	

RUN NO. 24

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA: 50 FT

CLIMATE: EQUATORIAL (1)

SURFACE REFLECTION LOBBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 360 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.62	135.66	135.60	135.75	135.91	135.75	0.12	1.67
9.45	138.56	138.53	138.68	138.83	138.68	0.12	2.81
15.09	141.91	141.95	142.10	142.25	142.10	0.12	4.49
18.72	143.60	143.68	143.83	143.96	143.83	0.12	5.57
24.39	145.76	145.91	146.06	146.21	146.06	0.12	7.25
30.67	147.68	147.80	148.04	148.20	148.05	0.12	9.12
35.93	149.02	149.30	149.60	149.60	149.45	0.12	10.68
40.90	150.12	150.46	150.77	150.77	150.61	0.12	12.16
45.96	151.12	151.52	151.83	151.83	151.68	0.12	13.67
50.67	151.95	152.42	152.57	152.73	152.57	0.12	15.07
55.80	152.78	153.32	153.47	153.62	153.47	0.12	16.59
60.47	153.47	154.07	154.22	154.38	154.23	0.12	17.98
65.91	154.22	154.89	155.04	155.20	155.05	0.12	19.60
70.81	154.84	155.60	155.74	155.90	155.75	0.12	21.05
75.85	155.43	156.27	156.42	156.57	156.42	0.12	22.56
80.77	155.97	156.87	157.02	157.18	157.02	0.12	24.02
85.81	156.50	157.47	157.63	157.79	157.63	0.12	25.52
90.65	156.97	158.03	158.19	158.35	158.19	0.12	26.96
95.99	157.47	158.62	158.78	158.94	158.78	0.13	28.54
100.94	157.90	158.82	159.01	159.83	159.32	0.40	30.02
102.42	158.03	158.86	159.47	160.12	159.48	0.49	30.46
104.08	158.17	158.90	159.64	160.44	159.66	0.60	30.95
105.79	158.31	158.96	159.82	160.77	159.85	0.71	31.46
106.00	158.33	158.97	159.84	160.81	159.87	0.72	31.52
107.54	158.45	159.02	160.01	161.11	160.04	0.82	31.98
109.35	158.60	159.09	160.20	161.45	160.24	0.92	32.52
111.00	158.73	159.16	160.37	161.77	160.43	1.02	33.01
111.20	158.74	159.17	160.39	161.80	160.45	1.03	33.07
113.10	158.89	159.26	160.60	162.17	160.67	1.14	33.63
115.06	159.04	159.36	160.81	162.55	160.90	1.25	34.21
115.99	159.11	159.41	160.92	162.73	161.01	1.30	34.49
117.07	159.19	159.46	161.04	162.94	161.14	1.36	34.81
119.14	159.34	159.57	161.28	163.35	161.39	1.48	35.43
121.00	159.47	159.66	161.49	163.71	161.61	1.58	35.98
121.27	159.49	159.68	161.52	163.77	161.65	1.60	36.06
123.45	159.65	159.79	161.76	164.19	161.90	1.72	36.71
125.70	159.80	159.90	161.99	164.61	162.16	1.84	37.38
126.00	159.82	159.92	162.02	164.66	162.19	1.86	37.47
128.01	159.96	160.01	162.23	165.02	162.41	1.96	38.07
130.39	160.12	160.11	162.46	165.44	162.66	2.08	38.77
131.00	160.16	160.14	162.51	165.54	162.72	2.11	38.95
132.84	160.28	160.23	162.69	165.84	162.90	2.20	39.50
135.35	160.45	160.35	162.91	166.24	163.15	2.31	40.25
135.99	160.49	160.38	162.97	166.34	163.21	2.34	40.44
137.94	160.61	160.47	163.14	166.65	163.40	2.42	41.02
140.60	160.77	160.59	163.37	167.07	163.66	2.54	41.61
141.00	160.80	160.61	163.41	167.13	163.70	2.56	41.93
143.33	160.94	160.71	163.60	167.49	163.91	2.66	42.62
146.00	161.10	160.81	163.83	167.86	164.15	2.77	43.41
146.14	161.11	160.82	163.84	167.90	164.16	2.79	43.46
149.03	161.28	160.93	164.08	168.33	164.42	2.90	44.32

150.99	161.39	161.01	164.23	168.62	164.60	2.98	44.90
152.01	161.45	161.05	164.32	168.77	164.69	3.03	45.20
155.06	161.62	161.17	164.56	169.21	164.95	3.16	46.11
156.00	161.6 ^a	161.20	164.63	169.35	165.03	3.20	46.39
158.20	161.80	161.28	164.80	169.67	165.22	3.29	47.04
160.99	161.95	161.38	165.02	170.06	165.46	3.41	47.87
161.43	161.97	161.39	165.05	170.12	165.49	3.43	48.00
164.75	162.15	161.51	165.30	170.60	165.77	3.57	48.99
165.99	162.22	161.56	165.40	170.78	165.88	3.62	49.36
168.16	162.33	161.64	165.56	171.10	166.07	3.72	50.01
170.99	162.47	161.73	165.76	171.52	166.30	3.84	50.85
171.67	162.51	161.74	165.81	171.62	166.35	3.88	51.05
175.26	162.69	161.82	166.07	172.14	166.64	4.05	52.12
176.00	162.72	161.84	166.13	172.25	166.70	4.09	52.33
178.96	162.87	161.91	166.34	172.68	166.94	4.23	53.22
180.99	162.97	161.96	166.48	172.98	167.10	4.33	53.82
182.75	163.05	162.00	166.61	173.25	167.24	4.42	54.34
185.99	163.20	162.07	166.83	173.78	167.51	4.60	55.31
186.65	163.23	162.09	166.87	173.88	167.57	4.64	55.50
190.65	163.42	162.20	167.15	174.52	167.91	4.85	56.69
191.00	163.43	162.20	167.17	174.58	167.93	4.87	56.80
194.75	163.60	162.23	167.44	175.20	168.23	5.10	57.91
195.99	163.66	162.20	167.52	175.42	168.33	5.20	58.28
198.96	163.79	162.12	167.71	175.97	168.54	5.44	59.16
200.99	163.87	162.07	167.83	176.33	168.68	5.61	59.77
203.28	163.97	161.97	167.95	176.78	168.84	5.82	60.45
205.98	164.09	161.95	168.13	177.27	169.05	6.02	61.25
207.71	164.16	162.07	168.28	177.46	169.21	6.05	61.76
211.00	164.30	162.32	168.67	177.93	169.58	6.14	62.74
212.27	164.35	162.42	168.83	178.11	169.72	6.17	63.12
216.00	164.50	162.43	168.97	178.34	169.85	6.25	64.23
216.97	164.54	162.31	168.88	178.27	169.76	6.27	64.52
221.00	164.70	161.49	168.17	177.65	169.04	6.35	65.72
221.85	164.73	161.37	168.06	177.56	168.94	6.36	65.97
225.28	164.87	161.53	168.35	177.95	169.22	6.45	66.99
226.00	164.89	161.77	168.62	178.24	169.48	6.47	67.20
227.10	164.94	162.31	169.22	178.88	170.08	6.50	67.53
228.26	164.98	163.11	170.07	179.77	170.92	6.54	67.87
229.06	165.01	163.78	170.79	180.50	171.63	6.56	68.11
229.67	165.03	164.32	171.35	181.09	172.20	6.58	68.29
230.14	165.05	164.74	171.79	181.54	172.64	6.59	68.43
230.52	165.06	165.07	172.14	181.90	172.98	6.60	68.55
230.83	165.08	165.32	172.40	182.17	173.24	6.61	68.64
230.89	165.08	165.36	172.44	182.22	173.28	6.62	68.66
231.00	165.08	165.66	172.75	182.54	173.59	6.62	68.69
232.09	165.12	168.64	175.79	185.62	176.63	6.66	69.02
235.13	165.24	177.01	184.25	194.15	185.08	6.73	
238.00	165.34	184.12	191.60	201.69	192.41	6.89	
239.00	165.38	186.36	193.99	204.16	194.78	6.98	
240.00	165.41	188.22	195.96	206.22	196.74	7.06	
241.00	165.45	189.83	197.65	207.99	198.44	7.12	
242.00	165.49	191.26	199.14	209.55	199.93	7.17	
243.00	165.52	192.43	200.48	210.95	201.23	7.26	

RUN NO. 25

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NM

TERRAIN DELTA h: 50 FT

CLIMATE: CONTINENTAL SUBTROPICAL (2)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREES SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NM)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.61	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.56	152.71	152.56	0.12	15.07
55.91	152.80	153.32	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.36	154.20	0.12	17.99
65.79	154.20	154.84	155.00	155.16	155.00	0.12	19.56
70.81	154.84	155.54	155.70	155.86	155.70	0.13	21.06
75.91	155.44	156.20	156.37	156.54	156.37	0.13	22.57
80.77	155.97	156.80	156.98	157.16	156.98	0.14	24.02
85.85	156.50	157.38	157.58	157.77	157.58	0.15	25.53
90.67	156.97	157.89	158.12	158.34	158.12	0.18	26.96
95.97	157.47	158.41	158.69	158.95	158.69	0.21	28.54
100.94	157.90	158.63	159.20	159.77	159.20	0.44	30.02
102.41	158.03	158.66	159.35	160.05	159.35	0.54	30.45
104.01	158.16	158.69	159.51	160.35	159.52	0.65	30.93
105.66	158.30	158.71	159.67	160.67	159.68	0.77	31.42
108.00	158.33	158.71	159.70	160.73	159.71	0.79	31.52
107.35	158.44	158.73	159.83	160.99	159.85	0.88	31.92
109.08	158.58	158.74	159.99	161.32	160.01	1.01	32.44
110.86	158.72	158.73	160.15	161.65	160.18	1.14	32.97
111.00	158.73	158.73	160.16	161.68	160.19	1.15	33.01
112.89	158.86	158.71	160.30	162.01	160.34	1.29	33.51
114.56	159.00	158.64	160.46	162.38	160.49	1.46	34.07
115.99	159.11	158.56	160.57	162.68	160.60	1.61	34.49
116.49	159.14	158.53	160.61	162.78	160.64	1.66	34.64
118.46	159.29	158.46	160.76	163.21	160.81	1.85	35.23
120.49	159.44	158.51	160.91	163.66	161.02	2.01	35.83
121.00	159.47	158.52	160.95	163.77	161.07	2.05	35.98
122.57	159.59	158.57	161.06	164.11	161.23	2.17	36.45
124.71	159.74	158.53	161.22	164.54	161.45	2.32	37.08
125.99	159.82	158.67	161.31	164.80	161.57	2.40	37.47
126.90	159.89	158.69	161.38	164.97	161.66	2.45	37.74
129.15	160.04	158.76	161.55	165.38	161.88	2.60	38.41
131.00	160.16	158.82	161.69	165.70	162.05	2.70	38.95
131.47	160.19	158.84	161.73	165.78	162.09	2.73	39.09
133.84	160.35	158.92	161.91	166.18	162.31	2.85	39.80
136.00	160.49	159.00	162.07	166.54	162.51	2.97	40.44
136.28	160.50	159.01	162.09	166.59	162.53	2.98	40.52
138.78	160.66	159.10	162.28	167.00	162.76	3.11	41.27
141.00	160.80	159.17	162.45	167.36	162.96	3.22	41.93
141.35	160.82	159.18	162.47	167.42	162.99	3.24	42.03
143.99	160.98	159.28	162.67	167.83	163.22	3.37	42.82
145.99	161.10	159.35	162.82	168.14	163.40	3.46	43.41
146.70	161.14	159.38	162.87	168.24	163.46	3.49	43.62

149.48	161.31	159.48	163.07	163.66	163.70	3.62	44.45
150.99	161.39	159.53	163.19	168.88	163.82	3.68	44.90
152.33	161.47	159.58	163.28	169.08	163.94	3.74	45.30
155.25	161.64	159.68	163.50	169.50	164.18	3.87	46.17
155.99	161.68	159.71	163.55	169.61	164.24	3.90	46.39
158.26	161.80	159.79	163.71	169.94	164.43	4.00	47.06
161.00	161.95	159.88	163.91	170.33	164.65	4.12	47.87
161.33	161.97	159.89	163.94	170.38	164.68	4.14	47.97
164.49	162.14	159.99	164.16	170.86	164.95	4.29	48.91
165.99	162.22	160.04	164.27	171.09	165.08	4.36	49.36
167.73	162.31	160.10	164.39	171.35	165.22	4.44	49.88
171.00	162.47	160.20	164.53	171.84	165.50	4.60	50.85
171.06	162.48	160.20	164.63	171.85	165.50	4.60	50.87
174.46	162.65	160.30	164.88	172.36	165.78	4.76	51.88
175.99	162.72	160.35	164.98	172.58	165.91	4.83	52.33
177.95	162.82	160.41	165.12	172.87	166.07	4.92	52.92
180.99	162.97	160.49	165.34	173.35	166.32	5.08	53.82
181.53	162.99	160.50	165.30	173.43	166.37	5.11	53.98
185.19	163.16	160.60	165.64	174.02	166.68	5.30	55.07
185.99	163.20	160.62	165.70	174.15	166.75	5.35	55.31
188.95	163.34	160.69	165.92	174.63	167.01	5.51	56.19
190.99	163.43	160.74	166.06	174.96	167.18	5.62	56.79
192.80	163.51	160.73	166.19	175.26	167.32	5.74	57.33
195.99	163.66	160.64	166.35	175.82	167.53	6.00	58.28
196.74	163.69	160.61	166.39	175.95	167.57	6.06	58.50
200.78	163.87	160.44	166.68	176.84	167.90	6.47	59.70
201.00	163.88	160.43	166.71	176.89	167.93	6.50	59.77
204.93	164.04	160.55	167.18	177.51	168.34	6.68	60.94
206.00	164.09	160.56	167.28	177.65	168.42	6.73	61.28
209.21	164.22	160.42	167.19	177.66	168.35	6.79	62.21
211.00	164.30	160.21	166.86	177.37	168.06	6.77	62.74
213.65	164.41	159.80	166.35	176.94	167.61	6.76	63.53
216.00	164.50	159.53	166.41	177.07	167.59	6.91	64.23
216.78	164.53	159.18	166.62	177.30	167.72	7.01	64.43
218.44	164.60	159.42	167.47	178.20	168.31	7.36	64.96
219.49	164.64	159.43	168.30	179.07	168.89	7.68	65.27
220.23	164.67	159.45	168.99	179.78	169.38	7.95	65.49
220.78	164.69	159.47	169.54	180.35	169.77	8.16	65.65
221.00	164.70	159.48	169.75	180.57	169.92	8.24	65.72
221.22	164.71	159.49	169.97	180.79	170.07	8.32	65.78
221.57	164.72	159.52	170.29	181.13	170.31	8.44	65.89
221.86	164.73	159.54	170.55	181.39	170.50	8.54	65.97
221.88	164.73	159.54	170.56	181.41	170.51	8.54	65.98
223.01	164.78	161.66	173.96	181.65	173.52	9.07	66.32
225.82	164.89	169.00	182.36	181.33	181.89	9.16	
228.00	164.97	177.69	190.35	181.36	189.83	9.25	
229.00	165.01	181.28	194.01	205.05	193.48	9.29	
230.00	165.05	184.87	197.62	208.74	197.13	9.33	
231.00	165.08	187.37	200.24	211.33	199.69	9.37	
232.00	165.12	189.01	201.95	213.07	201.38	9.41	
233.00	165.16	190.47	203.46	214.62	202.89	9.44	

RUN NO. 26

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 39 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME SUBTROPICAL (3)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 370 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	OFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.61	135.66	135.60	135.75	135.90	135.75	0.12	1.67
9.47	138.57	138.54	138.69	138.85	138.69	0.12	2.82
15.06	141.90	141.93	142.08	142.23	142.08	0.12	4.48
18.71	143.60	143.68	143.83	143.98	143.83	0.12	5.56
24.47	145.79	145.94	146.08	146.24	146.09	0.12	7.28
30.66	147.67	147.89	148.04	148.20	148.04	0.12	9.12
35.91	149.01	149.29	149.44	149.60	149.44	0.12	10.68
40.87	150.11	150.46	150.61	150.76	150.61	0.12	12.15
45.99	151.12	151.53	151.68	151.83	151.68	0.12	13.68
50.67	151.95	152.42	152.57	152.72	152.57	0.12	15.07
55.77	152.78	153.31	153.46	153.61	153.46	0.12	16.58
60.46	153.47	154.06	154.21	154.37	154.22	0.12	17.98
65.95	154.22	154.88	155.04	155.19	155.04	0.12	19.61
70.81	154.84	155.56	155.72	155.88	155.72	0.12	21.06
75.84	155.43	156.22	156.38	156.54	156.38	0.13	22.55
80.78	155.97	156.82	156.99	157.16	156.99	0.13	24.02
85.79	156.50	157.40	157.58	157.76	157.58	0.14	25.51
90.65	156.97	157.93	158.13	158.33	158.13	0.15	26.96
96.00	157.47	158.47	158.70	158.93	158.70	0.18	28.55
100.94	157.90	158.66	159.21	159.78	159.22	0.44	30.02
102.36	158.02	158.69	159.35	160.05	159.36	0.53	30.44
104.04	158.17	158.72	159.51	160.36	159.53	0.64	30.94
105.77	158.31	158.75	159.68	160.68	159.70	0.75	31.45
106.00	158.33	158.75	159.70	160.72	159.72	0.77	31.52
107.54	158.45	158.78	159.84	161.00	159.87	0.87	31.98
109.36	158.60	158.81	160.00	161.33	160.05	0.98	32.52
111.00	158.73	158.83	160.15	161.62	160.20	1.09	33.01
111.24	158.74	158.84	160.17	161.66	160.22	1.10	33.08
113.16	158.89	158.85	160.33	162.00	160.39	1.23	33.65
115.15	159.04	158.84	160.49	162.35	160.55	1.38	34.24
115.99	159.11	159.03	160.55	162.50	160.62	1.44	34.49
117.18	159.20	158.80	160.64	162.72	160.71	1.53	34.85
119.28	159.35	158.74	160.79	163.10	160.87	1.71	35.47
120.99	159.47	158.68	160.90	163.42	160.99	1.85	35.96
121.43	159.50	158.66	160.93	163.50	161.02	1.89	36.11
123.65	159.66	158.56	161.08	163.90	161.17	2.09	36.77
125.93	159.82	158.60	161.24	164.29	161.37	2.22	37.45
126.00	159.82	158.61	161.24	164.30	161.37	2.23	37.47
128.28	159.98	158.67	161.40	164.68	161.57	2.35	38.15
130.70	160.14	158.73	161.57	165.08	161.78	2.48	38.86
131.00	160.16	158.74	161.59	165.13	161.81	2.50	38.95
133.18	160.31	158.81	161.75	165.47	161.99	2.61	39.60
135.74	160.47	158.90	161.93	165.85	162.21	2.73	40.36
136.00	160.49	158.90	161.95	165.89	162.23	2.74	40.44
138.37	160.64	158.98	162.11	166.24	162.42	2.85	41.15
141.00	160.80	159.05	162.30	166.60	162.64	2.97	41.93
141.08	160.80	159.07	162.30	166.64	162.65	2.97	41.95
143.86	160.97	159.15	162.50	167.04	162.87	3.10	42.78
146.00	161.10	159.22	162.65	167.34	163.04	3.19	43.41
146.73	161.15	159.25	162.70	167.44	163.10	3.22	43.63
149.68	161.32	159.35	162.90	167.85	163.33	3.34	44.51

150.99	161.39	159.39	162.99	163.03	163.44	3.39	44.90
152.71	161.49	159.44	163.10	168.26	163.57	3.46	45.41
155.83	161.67	159.54	163.31	168.68	163.81	3.59	46.34
156.00	161.68	159.55	163.33	168.70	163.82	3.59	46.39
159.04	161.84	159.64	163.53	169.10	164.05	3.72	47.28
160.99	161.95	159.70	163.66	169.36	164.20	3.80	47.87
162.34	162.02	159.74	163.75	169.54	164.30	3.85	48.27
165.74	162.20	159.83	163.96	169.98	164.55	3.99	49.28
166.00	162.22	159.83	163.98	170.02	164.57	4.00	49.36
169.23	162.38	159.91	164.18	170.44	164.80	4.14	50.32
170.99	162.47	159.95	164.28	170.67	164.92	4.21	50.85
172.81	162.56	159.99	164.39	170.91	165.05	4.29	51.39
175.99	162.72	160.05	164.58	171.33	165.27	4.44	52.33
176.50	162.75	160.06	164.61	171.40	165.31	4.46	52.48
180.29	162.93	160.14	164.83	171.90	165.57	4.63	53.61
180.99	162.97	160.15	164.87	171.99	165.62	4.66	53.82
184.18	163.12	160.20	165.06	172.43	165.84	4.81	54.77
185.99	163.20	160.23	165.16	172.70	165.97	4.91	55.31
188.17	163.30	160.26	165.29	173.02	166.13	5.03	55.96
191.00	163.43	160.30	165.45	173.43	166.33	5.17	56.79
192.28	163.49	160.31	165.52	173.62	166.42	5.24	57.18
195.99	163.66	160.36	165.74	174.17	166.69	5.44	58.28
196.49	163.68	160.35	165.77	174.25	166.72	5.48	59.43
200.82	163.87	160.24	166.01	174.96	167.00	5.80	59.72
201.00	163.88	160.23	166.02	174.98	167.01	5.81	59.77
205.26	164.06	160.05	166.22	175.73	167.26	6.17	61.04
205.99	164.09	160.01	166.26	175.87	167.31	6.25	61.25
209.82	164.25	160.11	166.52	176.25	167.55	6.35	62.39
210.99	164.30	160.14	166.64	176.38	167.65	6.39	62.74
214.51	164.44	160.23	167.03	176.85	167.97	6.53	63.79
216.00	164.50	160.23	167.14	176.99	168.06	6.59	64.23
219.35	164.63	160.05	167.01	176.95	167.94	6.54	65.23
221.00	164.70	159.86	166.73	176.71	167.70	6.62	65.72
224.38	164.83	159.37	166.10	176.17	167.14	6.61	66.72
226.00	164.89	159.16	166.03	176.12	167.04	6.68	67.20
227.91	164.97	158.97	166.34	176.49	167.21	6.87	67.77
229.78	165.04	158.87	167.19	177.39	167.78	7.25	68.33
230.96	165.08	158.96	168.03	178.26	168.39	7.54	68.68
231.00	165.08	158.98	168.06	178.29	168.42	7.55	68.69
231.79	165.11	159.60	168.74	178.99	169.08	7.58	68.93
232.41	165.14	160.12	169.30	179.57	169.64	7.60	69.11
232.89	165.15	160.52	169.74	180.02	170.07	7.62	69.25
233.29	165.17	160.84	170.08	180.37	170.41	7.63	69.37
233.61	165.18	161.08	170.34	180.64	170.66	7.65	69.47
233.68	165.18	161.12	170.39	180.69	170.71	7.65	69.49
234.90	165.23	164.33	173.69	184.05	174.00	7.70	69.85
235.99	165.27	167.26	176.66	187.04	176.96	7.73	70.18
238.01	165.34	172.33	182.01	192.53	182.27	7.89	
241.00	165.45	177.88	197.98	198.75	188.19	8.16	
242.00	165.49	179.86	199.23	201.10	190.39	8.30	
243.00	165.52	181.56	192.09	203.06	192.23	8.40	
244.00	165.56	183.08	193.70	204.75	193.84	8.47	
245.00	165.59	184.30	195.11	206.25	195.21	8.57	
246.00	165.63	185.34	196.37	207.60	196.43	8.70	

JENSON & GIERHART
 AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL
 FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL
 HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI
 TERRAIN DELTA h: 50 FT
 CLIMATE: DESERT (4)
 SURFACE REFLECTION LOBBING: DETERMINES MEDIAN

TYPE: ISOTROPIC
 TYPE: ISOTROPIC

RUN NO. 27
 FREQUENCY: 10 GHz
 POLARIZATION: CIRCULAR
 TERRAIN ELEVATION AT SITE: 0 FT
 OBST HT: DETERMINED AT 4 FT ABOVE MSL
 MINIMUM MONTHLY MEAN: 280 N UNITS
 SURFACE TYPE: POOR GROUND
 TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.64	132.70	132.86	132.70	0.12	0.30
5.67	135.70	135.70	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.79
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.54
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.58
24.05	145.65	145.78	145.93	145.08	145.93	0.12	7.15
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.14
35.94	149.02	149.29	149.44	149.60	149.44	0.12	10.69
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.19
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.63
50.69	151.96	152.41	152.57	152.72	152.57	0.12	15.07
55.98	152.81	153.34	153.49	153.65	153.49	0.12	16.65
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.99
65.74	154.20	154.86	155.01	155.17	155.01	0.12	19.55
70.82	154.84	155.57	155.72	155.89	155.73	0.13	21.06
75.63	155.44	156.24	156.40	156.58	156.41	0.13	22.58
80.77	155.97	156.84	157.01	157.19	157.02	0.14	24.02
85.87	156.50	157.44	157.63	157.83	157.63	0.15	25.54
90.69	156.98	157.96	158.18	158.41	158.18	0.17	26.97
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.54
100.95	157.90	158.74	159.30	159.88	159.31	0.45	30.02
102.17	158.01	158.77	159.43	160.12	159.44	0.53	30.58
103.72	158.14	158.81	159.60	160.44	159.61	0.64	30.85
105.33	158.27	158.84	159.77	160.76	159.79	0.75	31.32
106.00	158.33	158.85	159.83	160.93	159.86	0.80	31.52
106.97	158.41	158.87	159.94	161.10	159.97	0.87	31.81
108.65	158.54	158.90	160.11	161.44	160.15	0.99	32.31
110.38	158.68	158.92	160.30	161.61	160.34	1.13	32.82
111.00	158.73	158.92	160.36	161.95	160.41	1.18	33.01
112.14	158.81	158.93	160.49	162.20	160.53	1.28	33.35
113.95	158.95	158.90	160.68	162.63	160.73	1.45	33.89
115.81	159.09	158.85	160.89	163.10	160.94	1.56	34.44
116.00	159.11	159.84	160.91	163.15	160.95	1.58	34.49
117.72	159.24	158.82	161.09	163.61	161.17	1.37	35.00
119.67	159.38	158.93	161.30	164.14	161.45	2.04	35.59
121.00	159.47	159.00	161.44	164.50	161.63	2.15	35.98
121.67	159.52	159.04	161.51	164.67	161.73	2.21	36.16
123.72	159.67	159.15	161.71	165.17	161.99	2.36	36.79
125.83	159.81	159.24	161.91	165.65	162.24	2.51	37.42
126.00	159.82	159.25	161.92	165.68	162.26	2.52	37.47
127.99	159.96	159.34	162.10	166.10	162.49	2.56	38.06
130.21	160.11	159.43	162.29	166.55	162.73	2.80	38.72
130.99	160.16	159.46	162.36	166.71	162.81	2.85	39.05
132.48	160.26	159.53	162.49	166.99	162.97	2.94	39.39
134.81	160.41	159.63	162.68	167.42	163.21	3.07	40.09
135.99	160.49	159.67	162.78	167.63	163.32	3.14	40.44
137.20	160.56	159.72	162.87	167.85	163.44	3.20	40.80
139.65	160.72	159.82	163.07	168.27	163.68	3.33	41.53
140.99	160.80	159.87	163.18	168.50	163.81	3.41	41.93
142.16	160.87	159.91	163.27	168.70	163.92	3.47	42.27
144.74	161.03	160.02	163.48	169.11	164.11	3.59	43.04
145.99	161.10	160.07	163.57	169.32	164.27	3.65	43.41

147.37	161.18	160.13	164.68	169.53	164.40	3.71	43.82
150.08	161.34	160.23	163.89	169.96	164.64	3.84	44.63
151.00	161.39	160.27	163.97	170.11	164.73	3.89	44.90
152.85	161.50	160.34	164.11	170.42	164.90	3.98	45.45
155.70	161.66	160.45	164.33	170.89	165.17	4.13	46.30
156.00	161.68	160.46	164.35	170.94	165.20	4.14	46.39
158.61	161.82	160.56	164.56	171.37	165.44	4.27	47.16
160.99	161.95	160.65	164.74	171.76	165.66	4.39	47.87
161.59	161.98	160.68	164.79	171.86	165.71	4.42	48.05
164.65	162.14	160.79	165.03	172.35	165.99	4.57	48.96
165.99	162.22	160.84	165.13	172.56	166.11	4.64	49.36
167.77	162.31	160.91	165.27	172.84	166.27	4.72	49.89
170.98	162.47	161.03	165.53	173.35	166.56	4.88	50.84
171.00	162.47	161.03	165.53	173.35	166.57	4.88	50.85
174.26	162.64	161.15	165.79	173.91	166.68	5.05	51.82
175.99	162.72	161.21	165.93	174.20	167.04	5.14	52.33
177.62	162.80	161.27	166.06	174.50	167.20	5.24	52.82
181.00	162.97	161.39	166.33	175.12	167.53	5.44	53.82
181.05	162.97	161.39	166.34	175.13	167.54	5.44	53.84
184.57	163.14	161.51	166.63	175.77	167.88	5.65	54.88
185.99	163.20	161.56	166.75	176.02	168.02	5.73	55.31
188.17	163.30	161.63	166.92	176.40	168.23	5.86	55.96
190.99	163.43	161.61	167.13	176.92	168.46	6.06	56.79
191.86	163.47	161.60	167.19	177.10	168.54	6.14	57.05
195.63	163.64	161.66	167.55	177.96	168.93	6.49	58.17
196.00	163.66	161.55	167.60	178.07	168.98	6.54	58.28
199.51	163.81	161.58	168.12	178.97	169.47	6.87	59.33
201.00	163.88	161.62	168.28	179.19	169.61	6.93	59.77
203.50	163.98	161.54	168.22	179.20	169.56	6.97	60.51
206.00	164.09	161.25	167.74	178.80	169.17	6.94	61.26
207.64	164.16	161.03	167.47	178.58	168.93	6.94	61.74
210.56	164.28	160.79	167.81	179.04	169.12	7.20	62.61
211.00	164.30	160.78	168.00	179.26	169.25	7.28	62.74
212.12	164.34	160.79	168.69	180.00	169.75	7.54	63.08
213.10	164.38	160.83	169.54	180.89	170.36	7.86	63.37
213.80	164.41	160.87	170.23	181.62	170.96	8.12	63.57
214.32	164.43	160.91	170.78	182.19	171.26	8.32	63.73
214.72	164.45	160.95	171.21	182.63	171.57	8.47	63.85
215.05	164.46	160.98	171.54	182.98	171.82	8.59	63.95
215.32	164.47	161.02	171.79	183.28	172.02	8.70	64.03
215.32	164.47	161.02	171.80	183.28	172.02	8.70	64.03
216.00	164.50	161.83	172.94	185.45	173.76	9.23	64.23
216.41	164.52	163.12	175.26	186.78	175.07	9.24	64.35
219.06	164.62	171.44	183.70	195.31	183.50	9.32	
222.00	164.74	182.63	195.08	206.78	194.84	9.44	
223.00	164.78	186.44	198.96	210.69	198.71	9.47	
224.00	164.82	190.26	202.83	214.58	202.57	9.50	
225.00	164.85	194.07	206.71	218.48	206.44	9.54	
226.00	164.89	196.18	208.88	220.68	208.60	9.57	
227.00	164.93	197.57	210.32	222.17	210.04	9.61	

RUN NO. 28

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: CONTINENTAL TEMPERATE (6)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HGT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.98	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
36.99	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.56	0.12	15.07
55.91	152.80	153.31	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.04	154.20	154.36	154.20	0.12	17.99
65.79	154.20	154.83	155.00	155.16	155.00	0.13	19.56
70.81	154.84	155.53	155.70	155.86	155.70	0.13	21.06
75.91	155.44	156.19	156.37	156.54	156.37	0.14	22.57
80.77	155.97	156.77	156.97	157.16	156.97	0.15	24.02
85.86	156.50	157.35	157.56	157.77	157.57	0.17	25.53
90.67	156.87	157.85	158.12	158.34	158.10	0.19	26.96
95.97	157.47	158.35	158.69	158.95	158.67	0.23	28.54
100.94	157.90	158.57	159.20	159.77	159.18	0.47	30.02
102.41	158.03	158.60	159.34	160.04	159.33	0.56	30.45
104.01	158.16	158.62	159.50	160.35	159.49	0.67	30.93
105.66	158.30	158.64	159.66	160.66	159.65	0.79	31.42
106.00	158.33	158.64	159.69	160.73	159.69	0.81	31.52
107.35	158.44	158.65	159.82	160.98	159.82	0.91	31.92
109.08	158.58	158.65	159.98	161.31	159.98	1.04	32.44
110.86	158.72	158.64	160.13	161.64	160.14	1.17	32.97
111.00	158.73	158.64	160.15	161.67	160.15	1.19	33.01
112.69	158.86	158.59	160.29	161.99	160.29	1.33	33.51
114.56	159.00	159.48	160.44	162.36	160.43	1.52	34.07
115.99	159.11	159.38	160.56	162.66	160.53	1.67	34.49
116.49	159.14	159.39	160.59	162.76	160.58	1.70	34.64
118.46	159.29	159.44	160.74	163.18	160.78	1.85	35.23
120.49	159.44	159.49	160.88	163.62	160.99	2.01	35.83
121.00	159.47	159.50	160.92	163.73	161.04	2.05	35.98
122.57	159.59	159.54	161.03	164.07	161.20	2.16	36.45
124.71	159.74	159.80	161.19	164.50	161.41	2.31	37.08
125.99	159.82	159.64	161.28	164.75	161.54	2.40	37.47
126.90	159.89	159.66	161.35	164.92	161.63	2.45	37.74
129.15	160.04	159.73	161.52	165.33	161.84	2.59	38.41
131.00	160.16	159.79	161.68	165.65	162.01	2.69	38.95
131.47	160.19	159.81	161.70	165.73	162.05	2.72	39.09
133.84	160.35	159.89	161.88	166.12	162.27	2.84	39.80
136.00	160.49	159.97	162.04	166.46	162.46	2.94	40.44
136.28	160.50	159.98	162.06	166.51	162.49	2.96	40.52
138.78	160.66	159.07	162.25	166.91	162.71	3.08	41.27
141.00	160.80	159.15	162.42	167.27	162.91	3.19	41.93
141.35	160.82	159.16	162.45	167.32	162.94	3.21	42.03
143.99	160.96	159.25	162.64	167.73	163.17	3.34	42.62
145.99	161.10	159.33	162.79	168.04	163.35	3.43	43.41
146.70	161.14	159.36	162.85	168.14	163.41	3.46	43.62

149.48	161.31	159.46	163.05	168.56	163.65	3.58	44.45
150.99	161.39	159.51	163.17	168.78	163.78	3.65	44.90
152.33	161.47	159.56	163.26	168.98	163.89	3.71	45.30
155.25	161.64	159.67	163.48	169.40	164.14	3.83	46.17
155.99	161.68	159.69	163.53	169.51	164.20	3.87	46.39
158.26	161.80	159.77	163.70	169.83	164.39	3.96	47.06
161.00	161.95	159.87	163.90	170.22	164.61	4.08	47.87
161.33	161.97	159.88	163.92	170.27	164.64	4.10	47.97
164.49	162.14	159.98	164.15	170.73	164.90	4.23	48.91
165.99	162.22	160.03	164.26	170.94	165.03	4.30	49.36
167.73	162.31	160.09	164.39	171.19	165.17	4.38	49.88
171.00	162.47	160.19	164.62	171.68	165.44	4.53	50.85
171.06	162.48	160.19	164.63	171.69	165.45	4.53	50.87
174.46	162.65	160.30	164.87	172.19	165.73	4.69	51.68
175.99	162.72	160.35	164.98	172.42	165.86	4.76	52.33
177.95	162.82	160.41	165.12	172.71	166.02	4.85	52.62
180.99	162.97	160.49	165.34	173.19	166.28	5.01	53.82
181.53	162.99	160.50	165.38	173.27	166.32	5.04	53.98
185.19	163.16	160.60	165.64	173.87	166.64	5.24	55.07
185.99	163.20	160.62	165.70	174.00	166.70	5.28	55.31
188.95	163.34	160.69	165.92	174.48	166.96	5.44	56.19
190.99	163.43	160.74	166.06	174.61	167.13	5.55	56.79
192.80	163.51	160.73	166.19	175.12	167.27	5.68	57.33
195.99	163.66	160.64	166.36	175.65	167.47	5.92	58.28
195.74	163.69	160.67	166.40	175.77	167.52	5.98	58.50
200.78	163.87	160.44	166.69	176.63	167.84	6.38	59.70
201.00	163.88	160.43	166.71	176.69	167.87	6.41	59.77
204.93	164.04	160.56	167.19	177.29	168.27	6.58	60.94
206.00	164.09	160.58	167.29	177.42	168.36	6.63	61.26
209.21	164.22	160.44	167.21	177.44	168.29	6.69	62.21
211.00	164.30	160.22	166.88	177.16	168.01	6.67	62.74
213.65	164.41	159.82	166.37	176.73	167.56	6.66	63.53
216.00	164.50	159.55	166.43	176.86	167.54	6.81	64.23
216.78	164.53	159.50	166.64	177.09	167.67	6.92	64.46
218.44	164.60	159.45	167.49	178.00	168.26	7.27	64.96
219.49	164.64	159.45	168.33	178.86	168.84	7.59	65.27
220.23	164.67	159.47	169.02	179.57	169.33	7.86	65.49
220.78	164.69	159.50	169.57	180.14	169.72	8.06	65.65
221.00	164.70	159.51	169.78	180.36	169.88	8.15	65.72
221.22	164.71	159.52	169.99	180.58	170.03	8.23	65.78
221.57	164.72	159.71	170.32	180.92	170.32	8.29	65.89
221.86	164.73	159.94	170.57	181.19	170.57	8.30	65.97
221.88	164.73	159.96	170.59	181.21	170.59	8.30	65.98
223.01	164.78	163.24	173.98	184.65	173.96	8.36	66.32
225.82	164.89	171.49	182.39	193.12	182.34	8.45	
228.00	164.97	179.39	190.38	201.16	190.31	8.51	
229.00	165.01	183.02	194.04	204.85	193.97	8.53	
230.00	165.05	186.65	197.71	208.54	197.64	8.55	
231.00	165.08	189.18	200.27	211.13	200.20	8.57	
232.00	165.12	190.86	201.98	212.86	201.90	8.59	
233.00	165.16	192.35	203.49	214.39	203.42	8.61	

RUN NO. 29

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA d: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

CLIMATE: MARITIME TEMPERATE OVERLAND (?)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST OFF: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.61	149.45	0.12	10.70
40.97	150.13	150.47	150.62	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.58	151.96	152.41	152.56	152.71	152.56	0.12	15.07
55.91	152.80	153.32	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.36	154.21	0.12	17.99
65.79	154.20	154.85	155.00	155.16	155.00	0.12	19.56
70.81	154.84	155.55	155.70	155.86	155.71	0.12	21.06
75.91	155.44	156.22	156.38	156.54	156.38	0.12	22.57
80.77	155.97	156.82	156.98	157.15	156.98	0.13	24.02
85.85	156.50	157.42	157.59	157.76	157.59	0.13	25.53
90.67	156.97	157.35	158.13	158.31	158.13	0.14	26.96
95.07	157.47	158.51	158.71	158.90	158.71	0.16	28.54
100.94	157.90	158.73	159.23	159.74	159.23	0.40	30.02
102.41	158.03	158.76	159.38	160.02	159.39	0.49	30.45
104.01	158.16	158.79	159.54	160.33	159.55	0.60	30.93
105.66	158.30	158.83	159.70	160.64	159.72	0.71	31.42
106.00	158.33	158.83	159.73	160.71	159.76	0.73	31.52
107.35	158.44	158.86	159.87	160.96	159.90	0.82	31.92
109.08	158.58	158.91	160.03	161.29	160.07	0.93	32.44
110.86	158.72	158.94	160.20	161.62	160.25	1.04	32.97
111.00	158.73	158.95	160.21	161.64	160.26	1.05	33.01
112.69	158.86	158.98	160.37	161.95	160.43	1.16	33.51
114.56	159.00	159.01	160.54	162.30	160.61	1.29	34.07
115.99	159.11	159.02	160.67	162.57	160.75	1.39	34.49
116.49	159.14	159.02	160.72	162.66	160.79	1.42	34.64
118.46	159.29	159.05	160.89	163.04	160.98	1.57	35.23
120.49	159.44	158.99	161.07	163.43	161.16	1.73	35.83
121.00	159.47	158.98	161.11	163.53	161.20	1.78	35.98
122.57	159.59	158.97	161.25	163.82	161.34	1.90	36.45
124.71	159.74	158.95	161.43	164.22	161.53	2.06	37.08
125.99	159.82	158.95	161.54	164.45	161.64	2.15	37.47
126.90	159.89	158.95	161.62	164.61	161.72	2.21	37.74
129.15	160.04	159.02	161.81	165.00	161.94	2.34	38.41
131.00	160.16	159.10	161.97	165.30	162.11	2.43	38.95
131.47	160.19	159.12	162.01	165.36	162.16	2.45	39.09
133.84	160.35	159.22	162.21	165.77	162.39	2.56	39.80
136.00	160.49	159.32	162.39	166.12	162.59	2.66	40.44
136.28	160.50	159.33	162.41	166.16	162.62	2.67	40.52
138.78	160.66	159.44	162.62	166.56	162.86	2.79	41.27
141.00	160.80	159.53	162.80	166.91	163.06	2.89	41.93
141.35	160.82	159.54	162.83	166.96	163.09	2.91	42.03
143.99	160.98	159.65	163.05	167.37	163.34	3.02	42.82
145.99	161.10	159.74	163.21	167.68	163.52	3.11	43.41
146.70	161.14	159.78	163.27	167.79	163.59	3.14	43.62

149.48	161.31	159.90	163.49	168.21	163.84	3.26	44.45
150.99	161.39	159.96	163.61	168.44	163.98	3.32	44.90
152.33	161.47	160.02	163.72	168.64	164.10	3.38	45.30
155.25	161.64	160.14	163.95	169.08	164.36	3.50	46.17
155.99	161.68	160.17	164.01	169.19	164.43	3.54	46.39
158.26	161.80	160.26	164.19	169.52	164.63	3.63	47.06
161.00	161.95	160.37	164.41	169.92	164.87	3.75	47.87
161.33	161.97	160.39	164.44	169.97	164.90	3.76	47.97
164.49	162.14	160.51	164.68	170.47	165.18	3.91	48.91
165.99	162.22	160.57	164.80	170.70	165.32	3.98	49.36
167.73	162.31	160.64	164.94	170.97	165.48	4.06	49.88
171.00	162.47	160.76	165.19	171.48	165.77	4.21	50.85
171.06	162.48	160.76	165.20	171.49	165.78	4.21	50.87
174.46	162.65	160.89	165.46	172.02	166.08	4.37	51.88
175.99	162.72	160.95	165.58	172.25	166.22	4.44	52.33
177.95	162.82	161.02	165.73	172.55	166.39	4.53	52.92
180.99	162.97	161.12	165.97	173.06	166.66	4.69	53.82
181.53	162.99	161.13	166.01	173.15	166.71	4.72	53.98
185.19	163.10	161.20	166.29	173.77	167.05	4.93	55.07
185.99	163.20	161.27	166.35	173.91	167.13	4.97	55.31
188.95	163.34	161.26	166.59	174.44	167.41	5.15	56.19
190.99	163.43	161.42	166.75	174.80	167.60	5.27	56.79
192.80	163.51	161.42	166.88	175.14	167.76	5.40	57.33
195.99	163.66	161.38	167.09	175.75	168.01	5.66	58.28
196.74	163.69	161.36	167.14	175.89	168.07	5.72	58.50
200.78	163.87	161.25	167.49	176.83	168.46	6.13	59.70
201.00	163.88	161.24	167.52	176.89	168.48	6.16	59.77
204.93	164.04	161.42	168.05	177.54	168.94	6.33	60.94
206.00	164.09	161.45	168.17	177.68	169.04	6.37	61.26
209.21	164.22	161.35	168.13	177.71	169.00	6.42	62.21
211.00	164.30	161.17	167.82	177.46	168.75	6.41	62.74
213.65	164.41	160.80	167.34	177.06	168.34	6.40	63.53
216.00	164.50	160.56	167.43	177.25	168.35	6.55	64.23
216.78	164.53	160.52	167.66	177.49	168.50	6.66	64.46
218.44	164.60	160.49	168.53	178.42	169.11	7.02	64.96
219.49	164.64	161.25	169.38	179.30	169.94	7.07	65.27
220.23	164.67	161.90	170.08	180.03	170.63	7.09	65.49
220.78	164.69	162.41	170.63	180.60	171.18	7.12	65.65
221.00	164.70	162.60	170.85	180.82	171.39	7.13	65.72
221.22	164.71	162.80	171.07	181.05	171.60	7.14	65.78
221.57	164.72	163.10	171.40	181.39	171.93	7.16	65.89
221.86	164.73	163.33	171.66	181.67	172.18	7.17	65.97
221.88	164.73	163.35	171.68	181.69	172.20	7.17	65.98
223.01	164.78	166.65	175.09	185.14	175.59	7.23	66.32
225.82	164.89	174.93	183.52	193.66	184.01	7.32	
228.00	164.97	182.84	191.53	201.73	192.00	7.38	
229.00	165.01	186.48	195.21	205.43	195.08	7.41	
230.00	165.05	190.12	198.89	209.13	199.35	7.43	
231.00	165.08	192.06	201.46	211.73	201.92	7.46	
232.00	165.12	194.35	203.18	213.49	203.64	7.49	
233.00	165.16	195.85	204.71	215.06	205.17	7.51	

RUN NO. 30

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME TEMPERATE OVERSEA (8)

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST INT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.89	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.61	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.55	0.12	15.07
55.91	152.80	153.31	153.46	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.35	154.20	0.12	17.99
65.79	154.20	154.84	154.99	155.15	154.99	0.12	19.56
70.81	154.84	155.54	155.70	155.85	155.70	0.12	21.06
75.91	155.44	156.20	156.37	156.53	156.36	0.13	22.57
80.77	155.97	156.79	156.97	157.13	156.97	0.13	24.02
85.65	156.50	157.38	157.57	157.74	157.56	0.14	25.53
90.67	156.97	157.90	158.11	158.30	158.10	0.16	26.96
95.97	157.47	158.42	158.66	158.89	158.66	0.18	28.54
100.94	157.90	158.63	159.18	159.71	159.18	0.42	30.02
102.41	158.03	158.66	159.33	159.99	159.33	0.52	30.45
104.01	158.16	158.69	159.48	160.29	159.49	0.63	30.93
105.66	158.30	158.71	159.64	160.60	159.65	0.71	31.42
106.00	158.33	158.72	159.67	160.66	159.68	0.73	31.52
107.35	158.44	158.73	159.80	160.91	159.81	0.85	31.92
109.08	158.58	158.75	159.95	161.23	159.98	0.97	32.44
110.86	158.72	158.76	160.11	161.55	160.14	1.09	32.97
111.00	158.73	158.76	160.12	161.57	160.15	1.10	33.01
112.69	158.86	158.74	160.26	161.87	160.29	1.22	33.51
114.56	159.00	158.69	160.40	162.21	160.43	1.38	34.07
115.99	159.11	158.62	160.51	162.47	160.53	1.50	34.49
116.49	159.14	158.59	160.54	162.56	160.56	1.55	34.64
118.46	159.29	158.46	160.68	162.93	160.69	1.75	35.23
120.49	159.44	158.41	160.81	163.31	160.84	1.91	35.83
121.00	159.47	158.42	160.85	163.41	160.89	1.95	35.98
122.57	159.59	158.45	160.95	163.70	161.03	2.05	36.45
124.71	159.74	158.51	161.10	164.09	161.22	2.18	37.08
125.99	159.82	158.54	161.19	164.32	161.34	2.26	37.47
126.90	159.89	158.56	161.25	164.48	161.42	2.32	37.74
129.15	160.04	158.62	161.41	164.87	161.62	2.45	38.41
131.00	160.16	158.67	161.55	165.19	161.79	2.55	38.95
131.47	160.19	158.69	161.58	165.27	161.83	2.58	39.09
133.84	160.35	158.77	161.75	165.66	162.04	2.70	39.80
136.00	160.49	158.84	161.91	166.01	162.23	2.81	40.44
136.28	160.50	158.85	161.93	166.06	162.26	2.83	40.52
138.78	160.66	158.93	162.12	166.46	162.46	2.96	41.27
141.00	160.80	159.00	162.28	166.82	162.67	3.07	41.93
141.35	160.82	159.01	162.30	166.88	162.70	3.09	42.03
143.99	160.98	159.10	162.49	167.29	162.93	3.22	42.82
145.99	161.10	159.17	162.64	167.60	163.10	3.31	43.41
146.70	161.14	159.19	162.69	167.71	163.16	3.35	43.62

149.48	161.31	159.29	162.88	168.13	163.40	3.48	44.45
150.99	161.39	159.34	162.99	168.36	163.52	3.55	44.90
152.33	161.47	159.38	163.08	168.55	163.63	3.61	45.30
155.25	161.64	159.47	163.28	169.02	163.88	3.76	46.17
155.99	161.68	159.49	163.33	169.13	163.95	3.79	46.39
158.26	161.80	159.56	163.49	169.49	164.14	3.91	47.06
161.00	161.95	159.64	163.67	169.92	164.36	4.05	47.87
161.33	161.97	159.65	163.70	169.97	164.39	4.07	47.97
164.49	162.14	159.73	163.90	170.47	164.65	4.23	48.91
165.99	162.22	159.77	164.00	170.70	164.77	4.31	49.36
167.73	162.31	159.81	164.10	170.96	164.90	4.40	49.88
171.00	162.47	159.88	164.31	171.45	165.15	4.57	50.85
171.06	162.48	159.88	164.31	171.46	165.16	4.57	50.87
174.46	162.65	159.95	164.52	172.00	165.43	4.76	51.88
175.99	162.72	159.98	164.61	172.25	165.55	4.84	52.33
177.95	162.82	160.02	164.73	172.56	165.70	4.96	52.92
180.99	162.97	160.07	164.92	173.08	165.95	5.14	53.82
181.53	162.99	160.07	164.95	173.18	165.99	5.18	53.98
185.19	163.16	160.13	165.17	173.81	166.29	5.41	55.07
185.99	163.20	160.14	165.22	173.94	166.35	5.46	55.31
188.95	163.34	160.18	165.40	174.44	166.59	5.65	56.19
190.99	163.43	160.20	165.52	174.78	166.75	5.77	56.79
192.80	163.51	160.17	165.62	175.12	166.88	5.92	57.33
195.99	163.66	160.06	165.77	175.72	167.09	6.20	58.28
196.74	163.69	160.03	165.81	175.86	167.14	6.26	58.50
200.78	163.87	159.84	166.08	176.78	167.47	6.70	59.70
201.00	163.88	159.83	166.10	176.84	167.49	6.73	59.77
204.93	164.04	159.93	166.56	177.50	167.90	6.94	60.94
206.00	164.09	159.93	166.65	177.65	167.99	6.99	61.26
209.21	164.22	159.76	166.54	177.69	167.91	7.08	62.21
211.00	164.30	159.53	166.19	177.43	167.62	7.07	62.74
213.65	164.41	159.11	165.65	177.07	167.17	7.11	63.53
216.00	164.50	158.82	165.69	177.25	167.15	7.28	64.23
216.78	164.53	158.76	165.90	177.50	167.29	7.40	64.46
218.44	164.60	158.69	166.73	178.44	167.88	7.76	64.96
219.49	164.64	158.68	167.55	179.33	168.46	8.09	65.27
220.23	164.67	158.69	166.24	180.05	168.95	8.36	65.49
220.78	164.69	159.04	168.78	180.63	169.44	8.45	65.65
221.00	164.70	159.24	168.99	180.85	169.65	8.46	65.72
221.22	164.71	159.44	169.20	181.08	169.86	8.47	65.78
221.57	164.72	159.75	169.52	181.43	170.19	8.48	65.89
221.86	164.73	159.98	169.77	181.70	170.44	8.50	65.97
221.88	164.73	160.00	169.79	181.72	170.46	8.50	65.98
223.01	164.78	163.32	173.16	185.18	173.84	8.56	66.32
225.82	164.89	171.56	181.54	193.70	182.22	3.66	
228.00	164.97	179.33	189.49	201.77	190.15	8.78	
229.00	165.01	182.92	193.15	205.47	193.80	8.02	
230.00	165.05	186.52	196.80	209.17	197.45	8.86	
231.00	165.08	189.02	199.35	211.76	200.00	8.90	
232.00	165.12	190.68	201.04	213.50	201.70	8.93	
233.00	165.16	192.15	202.54	215.06	203.20	8.96	

RUN NO. 31

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: CONTINENTAL ALL YEAR (0)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 30% N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.66	135.69	135.63	135.78	135.93	135.78	0.12	1.68
9.39	138.51	138.48	138.63	138.79	138.63	0.12	2.79
15.23	141.98	142.02	142.17	142.32	142.17	0.12	4.53
18.74	143.61	143.69	143.83	143.99	143.84	0.12	5.57
24.10	145.67	145.80	145.95	146.10	145.95	0.12	7.17
30.72	147.69	147.90	148.05	148.20	148.05	0.12	9.14
35.98	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.99	150.14	150.47	150.62	150.77	150.62	0.12	12.19
45.86	151.10	151.49	151.64	151.79	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.55	0.12	15.07
55.95	152.81	153.32	153.47	153.62	153.47	0.12	16.64
60.49	153.48	154.05	154.20	154.36	154.20	0.12	17.99
65.77	154.20	154.84	154.99	155.15	154.99	0.12	19.56
70.91	154.84	155.54	155.70	155.85	155.70	0.12	21.06
75.92	155.44	156.21	156.37	156.53	156.37	0.12	22.58
80.77	155.97	156.81	156.97	157.14	156.97	0.13	24.02
85.87	156.50	157.40	157.58	157.74	157.57	0.14	25.50
90.66	156.98	157.92	158.12	158.30	158.11	0.15	26.96
95.97	157.47	158.45	158.69	158.88	158.68	0.17	28.54
100.33	157.88	158.67	159.17	159.65	159.16	0.38	29.92
105.02	158.30	158.76	159.66	160.60	159.67	0.72	31.41
110.99	158.73	158.81	160.16	161.59	160.19	1.08	33.00
115.81	159.09	158.74	160.56	162.45	160.58	1.45	34.44
120.97	159.47	158.46	160.95	163.38	160.93	1.90	35.97
125.91	159.82	158.25	161.32	164.23	161.27	2.34	37.44
130.90	160.16	158.33	161.88	165.23	161.82	2.70	38.92
135.76	160.47	158.73	162.66	166.40	162.60	3.00	40.37
140.89	160.79	159.13	163.45	167.58	163.39	3.30	41.89
145.90	161.10	159.53	164.19	168.68	164.14	3.58	43.38
150.93	161.39	159.92	164.93	169.78	164.88	3.85	44.88
155.82	161.67	160.30	165.63	170.83	165.59	4.11	46.34
160.71	161.93	160.68	166.33	171.89	166.30	4.38	47.79
165.80	162.20	161.07	167.05	173.00	167.04	4.66	49.30
170.95	162.47	161.46	167.79	174.13	167.79	4.95	50.83
175.86	162.72	161.83	168.48	175.20	168.50	5.22	52.29
180.94	162.96	162.21	169.20	176.37	169.25	5.53	53.81
185.79	163.19	162.56	169.88	177.52	169.98	5.84	55.25
190.62	163.42	162.90	170.55	178.67	170.70	6.16	56.68
195.62	163.64	163.13	171.25	179.97	171.43	6.58	58.17
200.81	163.87	163.37	171.96	181.31	172.20	7.01	59.71
205.93	164.09	163.84	172.67	182.13	172.87	7.15	61.29
210.57	164.28	164.25	173.30	182.88	173.47	7.28	62.61
215.99	164.30	164.29	173.36	182.95	173.52	7.29	62.74
213.5	164.40	164.53	173.71	183.37	173.86	7.36	63.51
215.20	164.47	164.67	173.93	183.63	174.07	7.41	63.99
216.00	164.50	164.74	174.04	183.76	174.17	7.43	64.23
216.22	164.51	164.76	174.07	183.80	174.20	7.44	64.30
216.93	164.54	164.83	174.17	183.92	174.30	7.46	64.51
217.47	164.56	164.87	174.25	184.01	174.37	7.47	64.67
217.89	164.58	164.91	174.31	184.08	174.43	7.49	64.79
218.23	164.59	164.94	174.36	184.14	174.47	7.50	64.89

218.51	164.60	164.97	174.41	184.21	174.52	7.52	64.98
218.52	164.60	164.97	174.42	184.22	174.53	7.52	64.98
219.63	164.64	165.07	174.59	184.43	174.69	7.56	65.31
221.00	164.70	168.38	177.95	187.82	178.04	7.59	65.72
222.36	164.75	172.50	182.13	192.03	182.21	7.63	
225.00	164.85	182.33	192.06	202.03	192.13	7.70	
226.00	164.89	186.05	195.92	205.81	195.89	7.72	
227.00	164.93	189.76	199.58	209.59	199.64	7.75	
228.00	164.97	193.12	202.97	213.01	203.03	7.77	
229.00	165.01	194.70	204.60	214.66	204.65	7.80	
230.00	165.05	196.11	206.04	216.13	206.09	7.82	

RUN NO. 32

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

PACIFIC ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBS (AC)LE DISTANCE: DETERMINED AT 39 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: EQUATORIAL (1)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST LIT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 360 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.62	135.66	135.60	135.75	135.91	135.75	0.12	1.67
9.45	138.56	138.53	138.68	138.83	138.68	0.12	2.81
15.09	141.91	141.95	142.10	142.25	142.10	0.12	4.49
18.72	143.60	143.68	143.83	143.98	143.83	0.12	5.57
24.39	145.76	145.91	146.06	146.21	146.06	0.12	7.25
30.67	147.68	147.80	148.04	148.20	148.05	0.12	9.12
35.93	149.02	149.30	149.45	149.60	149.45	0.12	10.68
40.90	150.12	150.46	150.61	150.77	150.61	0.12	12.16
45.96	151.12	151.52	151.67	151.83	151.68	0.12	13.67
50.67	151.95	152.42	152.57	152.73	152.57	0.12	15.07
55.80	152.78	153.32	153.47	153.62	153.47	0.12	16.59
60.47	153.47	154.07	154.22	154.38	154.23	0.12	17.98
65.91	154.22	154.88	155.04	155.20	155.05	0.12	19.60
70.81	154.84	155.60	155.74	155.90	155.75	0.12	21.05
75.85	155.43	156.27	156.42	156.57	156.42	0.12	22.56
80.77	155.97	156.87	157.02	157.18	157.02	0.12	24.02
85.81	156.50	157.47	157.63	157.79	157.63	0.12	25.52
90.65	156.97	158.03	158.19	158.35	158.19	0.12	26.96
95.99	157.47	158.62	158.78	158.94	158.78	0.15	28.54
100.59	157.87	158.81	159.27	159.77	159.28	0.38	29.91
105.56	158.29	158.95	159.80	160.73	159.82	0.75	31.39
110.95	158.72	159.16	160.37	161.76	160.42	1.01	32.99
115.79	159.09	159.40	160.90	162.69	160.99	1.29	34.43
120.89	159.47	159.66	161.47	163.69	161.60	1.58	35.95
125.90	159.82	159.91	162.01	164.64	162.18	1.85	37.44
130.99	160.16	160.14	162.51	165.54	162.72	2.11	38.95
135.75	160.47	160.37	162.95	166.31	163.19	2.33	40.37
140.75	160.78	160.60	163.39	167.09	163.67	2.55	41.85
145.99	161.10	160.81	163.83	167.88	164.15	2.77	43.41
150.85	161.39	161.01	164.22	168.60	164.58	2.98	44.86
155.96	161.67	161.20	164.63	169.34	165.03	3.19	46.38
160.76	161.94	161.37	165.00	170.03	165.44	3.40	47.80
165.65	162.20	161.55	165.37	170.73	165.85	3.61	49.26
170.73	162.46	161.72	165.75	171.48	166.28	3.83	50.77
175.98	162.72	161.84	166.13	172.25	166.70	4.03	52.33
180.84	162.96	161.96	166.47	172.95	167.08	4.24	53.77
185.86	163.20	162.07	166.82	173.76	167.50	4.59	55.27
190.92	163.43	162.20	167.17	174.57	167.93	4.87	56.77
195.65	163.64	162.49	167.78	175.64	168.58	5.17	58.18
200.53	163.86	162.67	168.39	176.83	169.24	5.57	59.63
205.57	164.07	162.79	168.97	178.09	169.89	6.02	61.13
210.78	164.29	163.30	169.64	178.89	170.55	6.13	62.68
215.93	164.50	163.80	170.34	179.71	171.23	6.25	64.21
220.93	164.70	164.26	170.95	180.42	171.82	6.35	65.70
221.84	164.73	164.35	171.05	180.55	171.92	6.36	65.97
225.28	164.87	164.66	171.48	181.08	172.35	6.45	66.99
226.00	164.89	164.74	171.59	181.22	172.46	6.47	67.20
227.10	164.94	164.85	171.76	181.42	172.62	6.50	67.53
228.26	164.98	164.96	171.93	181.62	172.78	6.54	67.67
229.06	165.01	165.04	172.04	181.76	172.89	6.56	68.11
229.67	165.03	165.10	172.13	181.86	172.97	6.58	68.29

230.14	165.05	165.14	172.19	181.94	173.04	6.59	68.43
230.52	165.06	165.18	172.25	182.01	173.09	6.60	68.55
230.83	165.08	165.32	172.40	182.17	173.24	6.61	68.64
230.89	165.08	165.36	172.44	182.22	173.28	6.62	68.66
231.00	165.08	165.66	172.75	182.54	173.59	6.62	68.69
232.09	165.12	168.64	175.79	185.62	176.63	6.66	69.02
235.13	165.24	177.01	184.25	194.15	185.08	6.73	
238.00	165.34	184.12	191.60	201.63	192.41	6.89	
239.00	165.38	186.36	193.99	204.16	194.78	6.98	
240.00	165.41	188.22	195.96	206.22	196.74	7.06	
241.00	165.45	189.83	197.65	207.99	198.44	7.12	
242.00	165.49	191.26	199.14	209.55	199.93	7.17	
243.00	165.52	192.43	200.48	210.95	201.23	7.26	

RUN NO. 33

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: CONTINENTAL SUBTROPICAL (2)

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.61	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.06	152.40	152.56	152.71	152.56	0.12	15.07
55.91	152.80	153.32	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.36	154.20	0.12	17.92
65.79	154.20	154.84	155.00	155.16	155.00	0.12	19.56
70.81	154.84	155.54	155.70	155.86	155.70	0.12	21.06
75.91	155.44	156.20	156.37	156.54	156.37	0.13	22.57
80.77	155.97	156.80	156.98	157.16	156.98	0.14	24.02
85.85	156.50	157.38	157.58	157.77	157.58	0.15	25.53
90.67	156.97	157.89	158.12	158.34	158.12	0.16	26.96
95.97	157.47	158.41	158.69	158.95	158.69	0.21	28.54
100.63	157.88	158.63	159.17	159.71	159.17	0.42	29.92
105.60	158.29	158.71	159.66	160.66	159.67	0.76	31.40
110.99	158.73	158.73	160.16	161.68	160.19	1.15	33.00
115.81	159.09	158.57	160.56	162.64	160.59	1.59	34.44
120.94	159.47	158.15	160.94	163.76	160.95	2.19	35.96
125.90	159.82	158.05	161.61	165.08	161.58	2.75	37.44
130.93	160.16	158.47	162.63	166.64	162.58	3.19	38.93
135.75	160.47	158.87	163.49	167.94	163.43	3.54	40.37
140.84	160.79	159.28	164.40	169.30	164.33	3.92	41.88
145.91	161.10	159.68	165.22	170.53	165.15	4.24	43.39
150.90	161.39	160.08	166.06	171.75	165.97	4.56	44.87
155.88	161.67	160.48	166.88	172.93	166.77	4.87	46.35
160.71	161.93	160.85	167.64	174.04	167.52	5.15	47.79
165.73	162.20	161.25	168.51	175.30	168.36	5.49	49.28
170.97	162.47	161.64	169.31	176.52	169.17	5.81	50.84
175.86	162.72	162.03	170.18	177.77	170.01	6.15	52.30
180.88	162.96	162.41	170.97	178.97	170.79	6.47	53.79
185.90	163.20	162.79	171.85	180.30	171.66	6.84	55.28
190.66	163.42	163.14	172.63	181.49	172.44	7.17	56.70
195.58	163.64	163.43	173.45	182.87	173.26	7.60	58.16
200.67	163.86	163.66	174.26	184.39	174.11	8.10	59.67
205.95	164.09	164.11	175.10	185.47	174.91	8.34	61.24
210.90	164.29	164.55	175.90	186.42	175.64	8.54	62.71
213.64	164.40	164.79	176.29	186.89	176.01	8.64	63.53
215.96	164.50	164.99	176.70	187.36	176.37	8.74	64.22
216.77	164.53	165.07	176.85	187.53	176.51	8.78	64.46
218.44	164.60	165.22	177.13	187.87	176.76	8.85	64.96
219.49	164.64	165.31	177.31	188.07	176.92	8.90	65.27
220.23	164.67	165.37	177.43	188.22	177.03	8.93	65.49
220.78	164.69	165.42	177.52	188.32	177.12	8.95	65.65
221.00	164.70	165.44	177.55	188.37	177.15	8.96	65.72
221.22	164.71	165.46	177.59	188.41	177.19	8.97	65.78

221.57	164.72	165.49	177.65	188.48	177.24	8.99	65.89
221.86	164.73	165.52	177.71	188.55	177.29	9.00	65.97
221.88	164.73	165.52	177.71	188.56	177.29	9.01	65.98
223.01	164.78	165.62	177.92	189.82	177.48	9.07	66.32
225.82	164.89	169.90	182.36	193.33	181.89	9.16	
228.00	164.97	177.69	190.35	201.36	189.83	9.25	
229.00	165.31	181.28	194.01	205.05	193.44	9.29	
230.00	165.05	184.87	197.68	208.74	197.11	9.33	
231.00	165.08	187.37	200.24	211.33	199.69	9.37	
232.00	165.12	189.01	201.95	213.07	201.38	9.41	
233.00	165.16	190.47	203.46	214.62	202.89	9.44	

RUN NO. 34

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME SUBTROPICAL (3)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 330 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	FIT DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.61	135.66	135.60	135.75	135.90	135.75	0.12	1.67
9.47	138.57	138.54	138.69	138.85	138.69	0.12	2.82
15.06	141.90	141.93	142.08	142.23	142.08	0.12	4.48
19.71	143.60	143.68	143.83	143.98	143.83	0.12	5.56
24.47	145.79	145.94	146.08	146.24	146.09	0.12	7.24
30.66	147.67	147.89	148.04	148.20	148.04	0.12	9.12
35.91	149.01	149.29	149.44	149.60	149.44	0.12	10.68
40.87	150.11	150.46	150.61	150.76	150.61	0.12	12.15
45.99	151.12	151.53	151.68	151.83	151.68	0.12	13.68
50.87	151.95	152.42	152.57	152.72	152.57	0.12	15.07
55.77	152.78	153.31	153.46	153.61	153.46	0.12	16.58
60.46	153.47	154.06	154.21	154.37	154.22	0.12	17.98
65.95	154.22	154.88	155.04	155.19	155.04	0.12	19.61
70.81	154.84	155.56	155.72	155.88	155.72	0.12	21.06
75.84	155.43	156.22	156.38	156.54	156.39	0.13	22.55
80.78	155.97	156.82	156.99	157.16	156.99	0.13	24.02
85.79	156.50	157.40	157.58	157.76	157.58	0.14	25.51
90.65	156.97	157.93	158.13	158.33	158.13	0.15	26.96
95.99	157.47	158.47	158.70	158.93	158.70	0.16	28.54
100.58	157.87	158.85	159.17	159.37	159.18	0.42	29.91
105.55	158.29	159.75	159.66	160.64	159.68	0.74	31.39
110.94	158.72	159.83	160.14	161.61	160.19	1.08	32.99
115.79	159.09	159.83	160.54	162.47	160.61	1.42	34.43
120.88	159.46	159.68	160.89	163.40	160.98	1.84	35.94
125.90	159.82	159.47	161.23	164.28	161.32	2.27	37.44
130.97	160.16	158.37	161.59	165.13	161.69	2.64	38.95
135.76	160.47	158.65	162.19	166.12	162.31	2.92	40.37
140.73	160.79	159.02	162.82	167.13	162.98	3.17	41.75
145.17	161.10	159.44	163.63	168.32	163.78	3.47	43.41
150.86	161.39	159.82	164.29	169.32	164.47	3.71	44.86
155.92	161.67	160.19	164.90	170.27	165.10	3.94	46.37
160.79	161.94	160.56	165.55	171.24	165.77	4.18	47.81
165.64	162.20	160.83	166.25	172.25	166.46	4.43	49.25
170.68	162.46	161.29	166.84	173.20	167.09	4.66	50.75
175.93	162.72	161.67	167.48	174.22	167.77	4.91	52.32
180.85	162.96	162.04	168.19	175.30	168.49	5.18	53.78
185.83	163.19	162.39	168.78	176.30	169.13	5.44	55.26
190.93	163.43	162.74	169.42	177.41	169.63	5.74	56.79
195.72	163.64	163.09	170.12	178.52	170.55	6.04	58.20
200.54	163.86	163.30	170.66	179.60	171.16	6.36	59.63
205.51	164.07	163.48	171.37	180.91	171.89	6.62	61.11
210.65	164.28	163.90	172.10	181.84	172.58	7.02	62.64
215.97	164.50	164.35	172.69	182.54	173.16	7.11	64.22
220.89	164.69	164.81	173.45	183.44	173.96	7.26	65.69
225.37	164.83	165.11	173.90	183.96	174.30	7.57	66.72
229.57	164.89	165.24	174.06	184.18	174.47	7.40	67.19
233.90	164.97	165.41	174.28	184.41	174.60	7.44	67.77
238.78	165.04	165.57	174.54	184.71	174.91	7.41	68.31
243.96	165.08	165.68	174.70	184.95	175.12	7.54	68.80
249.08	165.08	165.62	174.70	184.99	175.12	7.55	69.69
254.19	165.11	165.76	174.90	185.15	175.25	7.53	70.99

232.41	165.14	165.82	175.00	185.27	175.34	7.60	69.11
232.89	165.15	165.86	175.08	185.36	175.41	7.62	69.25
233.29	165.17	165.90	175.14	185.43	175.47	7.63	69.37
233.61	165.18	165.93	175.19	185.49	175.51	7.65	69.47
233.68	165.18	165.93	175.20	185.50	175.52	7.65	69.49
234.90	165.23	166.05	175.41	185.76	175.72	7.70	69.85
235.99	165.27	167.26	176.66	187.04	176.96	7.73	70.18
238.01	165.34	172.33	182.01	192.53	182.27	7.89	
241.00	165.45	177.88	187.98	198.75	188.19	8.16	
242.00	165.49	179.86	190.23	201.10	190.39	8.30	
243.00	165.52	181.56	192.09	203.06	192.23	8.40	
244.00	165.56	183.08	193.70	204.75	193.84	8.47	
245.00	165.59	184.30	195.11	206.25	195.21	8.57	
246.00	165.63	185.34	196.37	207.60	196.43	8.70	

RUN NO. 35

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT (4)

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 2800 UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREF SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.76
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.54
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.58
24.05	145.65	145.78	145.93	146.08	145.93	0.12	7.15
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.14
35.94	149.02	149.29	149.44	149.60	149.44	0.12	10.69
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.19
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.63
50.69	151.96	152.41	152.57	152.72	152.57	0.12	15.07
55.98	152.81	153.34	153.49	153.65	153.49	0.12	16.65
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.99
65.74	154.20	154.86	155.01	155.17	155.01	0.12	19.55
70.82	154.84	155.57	155.72	155.89	155.73	0.13	21.06
75.93	155.44	156.24	156.40	156.58	156.41	0.13	22.58
80.77	155.97	156.84	157.01	157.19	157.02	0.14	24.02
85.87	156.50	157.44	157.63	157.83	157.63	0.15	25.54
90.69	156.96	157.96	158.18	158.41	158.18	0.17	26.97
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.54
100.64	157.88	158.74	159.27	159.82	159.27	0.42	29.93
105.64	158.30	158.84	159.80	160.82	159.82	0.77	31.41
110.97	158.72	158.92	160.36	161.94	160.40	1.14	33.00
115.82	159.09	158.85	160.80	163.10	160.94	1.11	34.44
121.00	159.47	158.53	161.44	164.50	161.49	2.33	35.98
125.92	159.82	158.25	161.92	165.66	161.94	2.90	37.44
130.87	160.15	158.47	162.71	167.04	162.74	3.35	38.92
135.77	160.47	158.89	163.69	168.52	163.70	3.76	40.37
140.94	160.30	159.30	164.60	169.92	164.61	4.15	41.91
145.89	161.10	159.71	165.50	171.24	165.49	4.50	43.38
150.97	161.39	160.12	166.39	172.53	166.35	4.85	44.89
155.79	161.66	160.51	167.23	173.80	167.18	5.19	46.33
160.73	161.94	160.90	168.10	175.10	168.04	5.54	47.79
165.87	162.21	161.31	168.96	176.38	168.85	5.89	49.32
170.90	162.47	161.70	169.87	177.68	169.76	6.24	50.82
175.83	162.72	162.09	170.65	178.92	170.96	6.56	52.30
180.96	162.96	162.46	171.58	180.37	171.48	6.99	53.81
185.71	163.19	162.84	172.35	181.60	172.27	7.33	55.22
190.62	163.42	163.17	173.17	182.92	173.09	7.71	56.68
195.70	163.64	163.44	174.02	184.44	173.97	8.20	58.20
201.00	163.88	163.79	174.11	185.71	174.78	8.56	59.77
205.92	164.09	164.24	175.64	186.70	175.53	8.77	61.23
207.63	164.15	164.39	175.52	187.03	175.79	8.84	61.74
210.56	164.28	164.65	176.37	187.61	176.22	8.97	62.61
211.98	164.30	164.69	176.44	187.69	176.28	8.99	62.74
212.12	164.34	164.79	176.61	187.92	176.45	9.03	63.08
213.10	164.38	164.88	176.76	188.11	176.59	9.08	63.37
213.89	164.41	164.94	176.86	188.24	176.69	9.10	63.57
214.32	164.43	164.98	176.94	188.36	176.77	9.13	63.79
214.72	164.45	165.02	177.00	188.43	176.85	9.15	63.85
215.05	164.46	165.05	177.06	188.50	176.88	9.16	63.95
215.32	164.47	165.08	177.16	188.65	176.97	9.21	64.03

215.32	164.47	165.08	177.16	188.65	176.97	9.21	64.03
216.00	164.50	165.14	177.25	188.76	177.06	9.23	64.23
216.41	164.52	165.17	177.31	188.83	177.12	9.24	64.35
219.06	164.62	171.44	183.70	195.31	183.50	9.32	
222.00	164.74	182.63	195.08	206.78	194.84	9.44	
223.00	164.78	186.44	198.96	210.68	198.71	9.47	
224.00	164.82	190.26	202.83	214.58	202.57	9.50	
225.00	164.85	194.07	206.71	218.48	206.44	9.54	
226.00	164.89	196.18	208.88	220.68	208.60	9.57	
227.00	164.93	197.57	210.32	222.17	210.04	9.61	

RUN NO. 36

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

TYPE: ISOTROPIC

POLARIZATION: CIRCULAR

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN ELEVATION AT SITE: 0 FT

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

OBST HT: DETERMINED AT 4 FT ABOVE MSL

CLIMATE: CONTINENTAL TEMPERATURE

MINIMUM MONTHLY MEAN: 320 N UNITS

SURFACE TYPE: POOR GROUND

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.59	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.56	0.12	15.07
55.91	152.80	153.31	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.04	154.20	154.36	154.20	0.12	17.99
65.79	154.20	154.83	155.00	155.16	155.00	0.13	19.56
70.81	154.84	155.53	155.70	155.86	155.70	0.13	21.06
75.91	155.44	156.19	156.37	156.54	156.37	0.14	22.57
80.77	155.97	156.77	156.97	157.16	156.97	0.15	24.02
85.85	156.50	157.35	157.58	157.77	157.57	0.17	25.53
90.67	156.97	157.85	158.12	158.34	158.10	0.19	26.96
95.97	157.47	158.35	158.69	158.95	158.67	0.23	28.54
100.63	157.88	158.57	159.17	159.70	159.15	0.44	29.92
105.60	158.29	158.64	159.65	160.65	159.65	0.79	31.40
110.99	158.73	158.64	160.15	161.67	160.15	1.18	33.00
115.81	159.09	158.38	160.54	162.62	160.51	1.66	34.44
120.64	159.47	157.80	160.92	163.72	160.82	2.32	35.96
125.90	159.82	158.10	162.00	165.46	161.86	2.87	37.44
130.93	160.16	158.53	163.11	167.39	162.92	3.35	38.93
135.75	160.47	158.93	163.98	168.38	163.78	3.70	40.37
140.84	160.79	159.32	164.76	169.59	164.57	4.02	41.88
145.91	161.10	159.73	165.52	170.86	165.42	4.35	43.39
150.90	161.39	160.12	166.39	172.00	166.16	4.64	44.87
155.88	161.67	160.49	167.06	173.03	166.77	4.90	46.35
160.71	161.93	160.87	167.84	174.14	167.63	5.19	47.79
165.73	162.20	161.25	168.58	175.24	168.37	5.47	49.28
170.97	162.47	161.64	169.25	176.31	169.08	5.73	50.84
175.86	162.72	162.01	170.01	177.44	169.83	6.03	52.30
180.88	162.96	162.38	170.74	178.57	170.57	6.33	53.79
185.90	163.20	162.74	171.37	179.66	171.26	6.61	55.28
190.66	163.42	163.09	172.07	180.78	171.98	6.91	56.70
195.58	163.64	163.36	172.76	182.00	172.71	7.28	58.16
200.67	163.86	163.56	173.35	183.28	173.39	7.70	59.67
205.95	164.09	163.99	174.01	184.14	174.05	7.87	61.24
210.95	164.29	164.42	174.71	184.99	174.71	8.03	62.71
213.54	164.40	164.66	175.05	185.41	175.04	8.10	63.53
215.96	164.50	164.86	175.32	185.75	175.31	8.16	64.22
218.77	164.53	164.93	175.41	185.86	175.40	8.18	64.46
218.44	164.60	165.07	175.60	186.10	175.59	8.22	64.96
219.49	164.64	165.16	175.71	186.25	175.70	8.24	65.27
220.23	164.67	165.22	175.79	186.35	175.79	8.25	65.49
220.78	164.69	165.26	175.86	186.43	175.85	8.27	65.65
221.00	164.70	165.28	175.88	186.46	175.87	8.27	65.72
221.22	164.71	165.30	175.90	186.49	175.90	8.28	65.78

221.57	164.72	165.33	175.95	186.55	175.94	8.29	65.89
221.86	164.73	165.36	175.99	186.60	175.98	8.30	65.97
221.88	164.73	165.36	175.99	186.61	175.99	8.30	65.98
223.01	164.78	165.46	176.21	186.87	176.18	8.36	66.32
225.82	164.89	171.49	182.39	193.12	182.34	0.45	
228.00	164.97	9.39	190.38	201.16	190.31	8.51	
229.00	165.01	3.02	194.04	204.85	193.97	8.53	
230.00	165.05	186.65	197.71	208.54	197.64	8.55	
231.00	165.08	189.13	200.27	211.13	200.20	8.57	
232.00	165.12	190.85	201.98	212.86	201.90	8.59	
233.00	165.16	192.35	203.49	214.39	203.42	8.61	

RUN NO. 37

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA H: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

CLIMATE: MARITIME TEMPERATE OVERLAND (7)

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.61	149.45	0.12	10.70
40.97	150.13	150.47	150.62	150.77	150.62	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.41	152.56	152.71	152.56	0.12	15.07
55.91	152.80	153.32	153.47	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.36	154.21	0.12	17.99
65.79	154.20	154.85	155.00	155.16	155.00	0.12	19.56
70.81	154.84	155.55	155.70	155.86	155.71	0.12	21.06
75.91	155.44	156.22	156.38	156.54	156.38	0.12	22.57
80.77	155.97	156.82	156.98	157.15	156.98	0.13	24.02
85.85	156.50	157.42	157.59	157.76	157.59	0.13	25.53
90.67	156.97	157.95	158.13	158.31	158.13	0.14	26.96
95.97	157.47	158.51	158.71	158.90	158.71	0.16	28.54
100.63	157.88	158.72	159.19	159.67	159.20	0.37	29.92
105.60	158.29	158.83	159.69	160.63	159.72	0.71	31.40
110.99	158.73	158.95	160.21	161.64	160.26	1.05	33.00
115.81	159.09	159.02	160.66	162.53	160.73	1.37	34.44
120.94	159.47	158.99	161.11	163.52	161.20	1.77	35.95
125.90	159.82	158.95	161.54	164.43	161.63	2.14	37.44
130.93	160.16	158.99	161.96	165.29	162.07	2.46	38.93
135.75	160.47	159.10	162.37	166.09	162.51	2.73	40.37
140.84	160.79	159.26	162.79	166.88	162.97	2.98	41.88
145.91	161.10	159.38	163.20	167.67	163.40	3.24	43.39
150.90	161.39	159.70	163.83	168.65	164.05	3.50	44.87
155.88	161.67	160.08	164.48	169.65	164.72	3.74	46.35
160.71	161.93	160.43	165.06	170.55	165.33	3.96	47.79
165.73	162.20	160.79	165.66	171.54	165.97	4.20	49.28
170.97	162.47	161.21	166.46	172.74	166.78	4.51	50.84
175.86	162.72	161.58	167.10	173.76	167.46	4.77	52.30
180.86	162.96	161.93	167.70	174.77	168.11	5.03	53.79
185.90	163.20	162.29	168.35	175.90	168.82	5.33	55.28
190.66	163.42	162.66	169.08	177.10	169.58	5.66	56.70
195.58	163.64	162.88	169.72	178.32	170.27	6.05	58.16
200.67	163.86	163.02	170.32	179.64	170.95	6.51	59.67
205.95	164.09	163.51	171.12	180.63	171.71	6.70	61.24
210.90	164.29	163.97	171.83	181.47	172.39	6.85	62.71
213.64	164.40	164.22	172.18	181.92	172.73	6.92	63.53
215.96	164.50	164.43	172.46	182.27	173.02	6.98	64.22
216.77	164.53	164.50	172.56	182.39	173.11	7.00	64.46
218.44	164.60	164.65	172.75	182.64	173.31	7.04	64.96
219.49	164.64	164.74	172.87	182.79	173.43	7.07	65.27
220.23	164.67	164.81	172.99	182.94	173.54	7.09	65.49
220.78	164.69	164.87	173.10	183.06	173.64	7.12	65.65
221.00	164.70	164.89	173.14	183.11	173.68	7.13	65.72
221.22	164.71	164.91	173.18	183.16	173.71	7.14	65.78

221.57	164.72	164.95	173.24	183.24	173.77	7.16	65.89
221.86	164.73	164.98	173.30	183.31	173.83	7.17	65.97
221.88	164.73	164.98	173.31	183.32	173.83	7.17	65.98
223.01	164.78	166.65	175.09	185.14	175.59	7.23	66.32
225.82	164.89	174.93	183.52	193.66	184.01	7.32	
228.00	164.97	182.84	191.53	201.73	192.00	7.38	
229.00	165.01	186.48	195.21	205.43	195.68	7.41	
230.00	165.05	190.12	198.89	209.13	199.35	7.43	
231.00	165.08	192.66	201.46	211.73	201.92	7.46	
232.00	165.12	194.35	203.18	213.49	203.64	7.49	
233.00	165.16	195.85	204.71	215.06	205.17	7.51	

RUN NO. 38

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 10 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.9 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: MARITIME TEMPERATE OVERSEA (8)

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 41 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 320 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.86	132.70	0.12	0.30
5.65	135.69	135.62	135.77	135.93	135.77	0.12	1.68
9.40	138.52	138.49	138.64	138.80	138.65	0.12	2.80
15.19	141.96	142.00	142.15	142.30	142.15	0.12	4.52
18.73	143.61	143.68	143.83	143.99	143.83	0.12	5.57
24.17	145.69	145.82	145.97	146.13	145.97	0.12	7.19
30.71	147.69	147.90	148.05	148.20	148.05	0.12	9.13
35.99	149.03	149.30	149.45	149.60	149.45	0.12	10.70
40.97	150.13	150.46	150.61	150.77	150.61	0.12	12.18
45.88	151.10	151.49	151.64	151.80	151.64	0.12	13.64
50.68	151.96	152.40	152.55	152.71	152.55	0.12	15.07
55.91	152.80	153.31	153.46	153.62	153.47	0.12	16.63
60.48	153.48	154.05	154.20	154.35	154.20	0.12	17.99
65.79	154.20	154.84	154.99	155.15	154.99	0.12	19.56
70.81	154.84	155.54	155.70	155.85	155.70	0.12	21.06
75.91	155.44	156.20	156.37	156.53	156.36	0.13	22.57
80.77	155.97	156.79	156.97	157.13	156.97	0.13	24.02
85.85	156.50	157.38	157.57	157.74	157.56	0.14	25.53
90.67	156.97	157.90	158.11	158.30	158.10	0.15	26.96
95.97	157.47	158.42	158.68	158.89	158.66	0.18	28.54
100.63	157.88	158.63	159.15	159.65	159.14	0.40	29.92
105.60	158.29	158.71	159.63	160.59	159.64	0.73	31.40
110.59	158.73	158.76	160.12	161.57	160.15	1.10	33.00
115.81	159.09	158.63	160.49	162.44	160.52	1.49	34.44
120.94	159.47	158.27	160.84	163.40	160.84	2.00	35.96
125.90	159.92	158.02	161.18	164.31	161.17	2.46	37.44
130.93	160.16	158.37	162.04	165.68	162.03	2.86	38.93
135.75	160.47	158.77	162.88	166.96	162.87	3.20	40.37
140.84	160.79	159.16	163.62	168.15	163.64	3.51	41.88
145.91	161.10	159.55	164.32	169.28	164.38	3.80	43.39
150.90	161.39	159.96	165.14	170.50	165.20	4.12	44.87
155.88	161.67	160.34	165.81	171.60	165.91	4.40	46.35
160.71	161.93	160.69	166.42	172.64	166.57	4.67	47.79
165.73	162.20	161.09	167.24	173.92	167.41	5.01	49.28
170.97	162.47	161.47	167.89	175.04	168.12	5.30	50.84
175.86	162.72	161.84	168.56	176.18	168.84	5.61	52.30
180.89	162.96	162.22	169.32	177.46	169.65	5.96	53.79
185.90	163.20	162.57	169.92	178.63	170.34	6.26	55.28
190.66	163.42	162.92	170.66	179.88	171.12	6.63	56.70
195.58	163.64	163.18	171.34	181.24	171.88	7.07	58.16
200.67	163.86	163.75	171.92	182.60	172.58	7.53	59.67
205.95	164.09	163.82	172.82	183.91	173.44	7.82	61.24
210.90	164.29	164.25	173.41	184.65	174.06	7.98	62.71
213.64	164.40	164.50	173.77	185.19	174.44	8.10	63.53
215.96	164.50	164.72	174.20	185.76	174.85	8.23	64.22
216.77	164.53	164.79	174.33	185.94	174.98	8.28	64.46
218.14	164.60	164.94	174.58	186.29	175.22	8.35	64.96
219.46	164.64	165.04	174.72	186.49	175.37	8.40	65.27
220.23	164.67	165.10	174.82	186.63	175.47	8.43	65.49
220.78	164.69	165.10	174.89	186.74	175.55	8.45	65.65
221.00	164.70	165.17	174.91	186.78	175.58	8.46	65.72
221.22	164.71	165.19	174.94	186.82	175.60	8.47	65.78

221.57	164.72	165.22	174.99	186.89	175.65	8.48	65.89
221.86	164.73	165.24	175.03	186.96	175.70	8.50	65.97
221.88	164.73	165.25	175.04	186.97	175.70	8.50	65.98
223.01	164.78	165.35	175.20	187.22	175.87	8.56	66.32
225.82	164.89	171.56	181.54	193.70	182.22	8.66	
228.00	164.97	179.33	189.49	201.77	190.15	8.78	
229.00	165.01	182.92	193.15	205.47	193.80	8.82	
230.00	165.05	186.52	196.80	206.17	197.45	8.86	
231.00	165.08	189.02	199.35	211.76	200.00	8.90	
232.00	165.12	190.68	201.04	213.50	201.70	8.93	
233.00	165.16	192.15	202.54	215.06	203.20	8.96	

APPENDIX E

COMPUTER PRINTOUTS OF BASIC TRANSMISSION LOSS FOR VARIOUS TERRAIN-LIMITED AND OBSTACLE-LIMITED HORIZONS

This appendix contains the Johnson-Gierhart program printouts of basic transmission loss for the obstacle runs of section 3.2 in volume 1. The run numbers are identified below.

Volume 2		Reference in Volume 1				Volume 2
Run No.	Table	Figure	Terrain Δh (ft)	Loosing	Obstacle Height (ft)	Page
39	3-5, 3-6	3-21	0	Determines Median	0	E-3
40	3-5, 3-6	3-22	50	Determines Median	4	E-5
41	3-5, 3-6	3-23	50	Determines Median	25	E-7
42	3-5, 3-6	3-24	50	Determines Median	50	E-9
43	3-5, 3-6	3-25	0	Determines Median	0	E-11
44	3-5, 3-6	3-26	50	Determines Median	4	E-13
45	3-5, 3-6	3-27	50	Determines Median	25	E-15
46	3-5, 3-6	3-28	50	Determines Median	50	E-17
47	3-5, 3-6	3-29	0	Determines Median	0	E-19
48	3-5, 3-6	3-30	50	Determines Median	4	E-21
49	3-5, 3-6	3-31	50	Determines Median	25	E-23
50	3-5, 3-6	3-32	50	Determines Median	50	E-25
51	3-5, 3-6	3-33	0	Determines Median	0	E-27
52	3-5, 3-6	3-34	50	Determines Median	4	E-29
53	3-5, 3-6	3-35	50	Determines Median	25	E-31
54	3-5, 3-6	3-36	50	Determines Median	50	E-33
55	3-5, 3-6	3-37	0	Determines Median	0	E-35
56	3-5, 3-6	3-38	50	Determines Median	4	E-37
57	3-5, 3-6	3-39	0	Determines Median	0	E-39
58	3-5, 3-6	3-40	50	Determines Median	4	E-41
59	3-5, 3-6	3-41	50	Determines Median	25	E-43
60	3-5, 3-6	3-42	50	Determines Median	50	E-45
61	3-5, 3-6	3-43	0	Determines Median	0	E-47
62	3-5, 3-6	3-44	50	Determines Median	4	E-49
63	3-5, 3-6	3-45	50	Determines Median	25	E-51
64	3-5, 3-6	3-46	50	Determines Median	50	E-53
65	3-5, 3-6	3-47	150	Determines Median	19	E-55
66	3-5, 3-6	3-48	250	Determines Median	40	E-57
67	3-5, 3-6	3-49	0	Determines Median	0	E-59
68	3-5, 3-6	3-50	50	Determines Median	4	E-61
69	3-5, 3-6	3-51	50	Determines Median	25	E-63

Volume 2	Reference in Volume 1					Volume 2
Run No.	Table	Figure	Terrain Δh (ft)	Lobing	Obstacle Height (ft)	Page
70	3-5, 3-6	3-52	50	Determines Median	50	E-65
71	3-5, 3-6	3-53	0	Determines Median	0	E-67
72	3-5, 3-6	3-54	50	Determines Median	4	E-69
73	3-5, 3-6	3-55	50	Determines Median	25	E-71
74	3-5, 3-6	3-56	50	Determines Median	50	E-73
75	3-7, 3-8	3-21	0	Contributes to Variability	0	E-75
76	3-7, 3-8	3-22	50	Contributes to Variability	4	E-76
77	3-7, 3-8	3-23	50	Contributes to Variability	25	E-77
78	3-7, 3-8	3-24	50	Contributes to Variability	50	E-78
79	3-7, 3-8	3-25	0	Contributes to Variability	0	E-79
80	3-7, 3-8	3-26	50	Contributes to Variability	4	E-81
81	3-7, 3-8	3-27	50	Contributes to Variability	25	E-83
82	3-7, 3-8	3-28	50	Contributes to Variability	50	E-84
83	3-7, 3-8	3-29	0	Contributes to Variability	0	E-85
84	3-7, 3-8	3-30	50	Contributes to Variability	4	E-86
85	3-7, 3-8	3-31	50	Contributes to Variability	25	E-87
86	3-7, 3-8	3-32	50	Contributes to Variability	50	E-88
87	3-7, 3-8	3-33	0	Contributes to Variability	0	E-89
88	3-7, 3-8	3-34	50	Contributes to Variability	4	E-91
89	3-7, 3-8	3-35	50	Contributes to Variability	25	E-93
90	3-7, 3-8	3-36	50	Contributes to Variability	50	E-95
91	3-7, 3-8	3-37	0	Contributes to Variability	0	E-96
92	3-7, 3-8	3-38	50	Contributes to Variability	4	E-98
93	3-7, 3-8	3-39	0	Contributes to Variability	0	E-100
94	3-7, 3-8	3-40	50	Contributes to Variability	4	E-102
95	3-7, 3-8	3-41	50	Contributes to Variability	25	E-103
96	3-7, 3-8	3-42	50	Contributes to Variability	50	E-104
97	3-7, 3-8	3-43	0	Contributes to Variability	0	E-106
98	3-7, 3-8	3-44	50	Contributes to Variability	4	E-108
99	3-7, 3-8	3-45	50	Contributes to Variability	25	E-110
100	3-7, 3-8	3-46	50	Contributes to Variability	50	E-111
101	3-7, 3-8	3-47	150	Contributes to Variability	19	E-113
102	3-7, 3-8	3-48	250	Contributes to Variability	40	E-115
103	3-7, 3-8	3-49	0	Contributes to Variability	0	E-117
104	3-7, 3-8	3-50	50	Contributes to Variability	4	E-119
105	3-7, 3-8	3-51	50	Contributes to Variability	25	E-120
106	3-7, 3-8	3-52	50	Contributes to Variability	50	E-122
107	3-7, 3-8	3-53	0	Contributes to Variability	0	E-124
108	3-7, 3-8	3-54	50	Contributes to Variability	4	E-126
109	3-7, 3-8	3-55	50	Contributes to Variability	25	E-128
110	3-7, 3-8	3-56	50	Contributes to Variability	50	E-130

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NM

TERRAIN ELEVATION: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

RUN NO. 39

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFT DIST (NM)
0.99	123.27	123.10	123.30	123.52	123.31	0.16	0.35
5.06	127.66	126.28	127.72	129.46	127.81	1.25	1.78
10.43	132.64	130.08	132.76	136.61	133.12	2.57	3.66
14.34	135.18	132.20	135.34	140.15	135.86	3.13	5.03
20.83	138.29	134.96	138.51	144.27	139.20	3.67	7.31
25.90	140.14	136.71	140.41	146.57	141.18	3.90	9.09
30.85	141.63	138.16	141.96	148.40	142.78	4.05	10.83
35.76	142.90	139.41	143.20	149.92	144.15	4.16	12.55
40.69	144.01	140.52	144.46	151.25	145.35	4.24	14.28
45.80	145.03	141.53	145.54	152.42	146.43	4.30	16.08
50.87	145.94	142.45	146.51	153.46	147.41	4.35	17.85
55.80	146.74	143.27	147.37	154.38	148.28	4.39	19.58
60.55	147.44	144.07	148.23	155.21	149.11	4.42	21.25
61.02	147.51	144.03	148.20	155.39	149.20	0.14	21.41
61.71	147.61	145.72	148.89	156.07	149.89	0.14	21.66
62.92	147.78	146.03	149.21	156.39	150.21	0.14	22.08
64.16	147.95	146.05	149.24	156.43	150.24	0.15	22.52
65.45	148.12	146.24	149.42	156.62	150.43	0.15	22.97
66.79	148.19	146.76	149.96	156.16	150.96	0.15	23.16
68.17	148.29	146.40	149.60	156.80	151.60	0.16	23.44
69.60	148.47	146.60	149.81	156.82	151.81	0.17	23.93
71.00	148.65	146.75	149.97	156.97	151.97	0.18	24.43
71.00	148.82	146.93	149.17	156.42	151.18	0.19	24.92
71.09	148.83	146.94	149.17	156.43	151.18	0.19	24.95
72.63	149.02	147.10	149.37	156.64	151.37	0.21	25.49
74.23	149.21	147.28	149.58	156.88	151.50	0.24	26.05
75.89	149.40	147.44	149.78	156.13	151.79	0.27	26.64
76.00	149.41	147.05	149.39	156.74	151.39	0.27	26.67
77.62	149.60	147.61	149.01	156.41	151.01	0.22	27.24
79.41	149.79	147.75	149.23	156.73	151.23	0.28	27.87
81.00	149.95	147.14	149.73	156.33	150.73	0.47	28.43
81.27	149.99	170.56	171.58	172.20	171.58	0.48	28.52
83.20	150.20	147.92	149.72	156.53	149.72	0.63	29.20
85.21	150.40	144.95	149.95	147.08	146.01	0.93	29.91
85.99	150.48	145.25	146.48	147.71	146.48	0.96	30.18
87.30	150.61	147.80	149.27	150.73	149.26	1.15	30.64
89.47	150.83	172.04	173.92	175.78	173.91	1.45	31.40
90.99	150.97	150.48	152.61	154.72	152.60	1.66	31.94
91.73	151.04	147.56	149.81	152.04	149.80	1.75	32.20
94.08	151.26	145.50	147.06	149.64	147.38	1.84	33.02
96.00	151.44	146.17	149.03	151.87	149.02	2.23	33.69
96.53	151.49	147.38	150.32	153.22	150.31	2.28	33.88
99.07	151.71	173.18	176.41	179.62	176.40	2.52	34.77
100.99	151.88	149.64	153.06	156.51	153.07	2.69	35.44
101.72	151.94	147.28	150.61	154.33	150.81	2.75	35.70
104.48	152.17	145.88	148.05	151.87	148.56	2.37	36.67
105.99	152.30	146.19	148.95	152.92	149.33	2.64	37.20
107.35	152.41	147.14	151.30	155.40	151.28	3.23	37.68
110.34	152.65	174.67	179.13	183.55	179.12	3.47	38.73
110.99	152.70	159.50	164.02	168.51	164.02	3.52	39.96
113.45	152.89	147.30	151.81	156.55	151.79	3.73	39.82
116.00	153.05	148.35	149.12	154.12	149.82	3.06	40.71

116.68	153.13	146.32	149.06	154.12	149.79	3.10	40.95
120.04	153.39	147.19	152.33	157.72	152.41	4.11	42.13
120.99	153.45	149.17	154.74	160.21	151.71	4.31	42.46
123.54	153.63	176.30	182.19	187.89	182.13	4.53	43.36
125.98	153.80	149.54	155.59	161.60	155.62	4.71	44.22
127.18	153.88	147.50	152.87	158.89	153.07	4.45	44.64
130.96	154.13	146.86	150.15	156.53	151.12	3.85	45.96
131.00	154.13	146.87	150.15	156.54	151.12	3.65	45.98
134.89	154.39	147.84	153.45	160.20	153.81	4.84	47.34
135.99	154.46	148.63	155.85	162.70	155.73	5.49	47.73
138.98	154.65	177.63	185.32	192.44	185.21	5.71	48.78
140.98	154.77	151.86	159.61	166.90	159.47	5.87	49.46
143.22	154.91	148.20	154.07	161.56	154.57	5.23	50.27
145.98	155.07	147.62	151.64	159.37	152.80	4.67	51.23
147.62	155.17	147.52	151.40	159.30	152.65	4.70	51.81
150.98	155.37	148.22	153.20	161.42	154.21	5.21	52.99
152.20	155.44	148.60	154.76	163.10	155.44	5.69	53.42
156.00	155.65	158.82	168.16	176.84	167.95	7.04	54.75
156.96	155.70	175.88	185.31	194.59	185.11	7.11	55.09
161.00	155.92	149.20	156.94	166.12	157.41	6.60	56.51
161.92	155.97	145.10	155.59	164.87	156.46	6.20	56.83
166.00	156.19	145.53	153.14	162.89	154.74	5.74	58.26
167.14	156.25	148.57	153.17	163.03	154.81	5.78	58.66
170.85	156.44	149.40	154.99	165.29	156.46	6.31	59.96
171.00	156.45	149.45	155.12	165.43	156.57	6.34	60.02
172.83	156.54	150.15	157.12	167.65	158.23	6.89	60.66
174.09	156.60	150.67	158.94	169.62	159.69	7.42	61.10
174.97	156.65	151.05	160.40	171.19	160.85	7.87	61.41
175.64	156.68	151.33	161.55	172.43	161.76	8.24	61.64
176.00	156.70	151.49	162.17	173.11	162.25	8.45	61.77
176.15	156.71	151.56	162.43	173.39	162.46	8.53	61.80
176.57	156.73	151.74	163.09	174.12	162.99	8.74	61.97
176.92	156.74	151.99	163.58	174.67	163.41	8.88	62.10
177.75	156.78	152.62	164.40	175.65	164.23	9.00	62.39
178.31	156.81	153.73	165.55	176.84	165.38	9.03	62.59
180.94	156.94	158.95	170.94	182.36	170.76	9.15	63.51
182.55	157.02	162.15	174.24	185.73	174.05	9.21	DIFR
185.00	157.13	169.50	181.72	193.31	181.53	9.30	DIFR
186.00	157.18	172.49	184.78	196.40	184.57	9.34	DIFR
187.00	157.22	175.46	187.83	199.49	187.61	9.39	DIFR
188.00	157.27	178.44	190.89	202.58	190.65	9.40	DIFR
189.00	157.32	181.42	193.94	205.67	193.69	9.47	DIFR
190.00	157.36	184.41	197.00	208.75	196.74	9.51	DIFR

RUN NO. 40

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 2000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.05	127.66	127.57	127.72	127.89	127.72	0.12	1.78
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.83	138.29	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
30.85	141.63	141.81	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.08
50.87	145.94	146.35	146.51	146.67	146.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.55	147.44	147.97	148.14	148.32	148.15	0.13	21.25
61.00	147.51	148.04	148.21	148.39	148.22	0.14	21.41
61.71	147.61	148.15	148.32	148.50	148.33	0.14	21.66
62.92	147.78	148.33	148.51	148.69	148.51	0.14	22.08
64.16	147.95	148.51	148.70	148.89	148.70	0.15	22.52
65.45	148.12	148.70	148.89	149.09	148.89	0.15	22.97
65.99	148.19	148.78	148.87	149.17	148.97	0.15	23.16
66.79	148.29	148.89	149.08	149.29	149.09	0.16	23.44
68.17	148.47	149.07	149.28	149.50	149.29	0.17	23.93
69.60	148.65	149.26	149.49	149.72	149.49	0.18	24.43
71.00	148.82	149.44	149.68	149.93	149.68	0.19	24.92
71.09	148.83	149.45	149.69	149.94	149.70	0.19	24.95
72.63	149.02	149.64	149.91	150.18	149.91	0.21	25.49
74.23	149.21	149.83	150.12	150.43	150.13	0.24	26.05
75.89	149.40	150.01	150.35	150.70	150.35	0.27	26.64
76.00	149.41	150.02	150.36	150.72	150.37	0.27	26.67
77.62	149.60	150.16	150.58	150.99	150.58	0.30	27.24
79.41	149.79	150.34	150.82	151.32	150.82	0.38	27.87
81.00	149.96	150.44	151.04	151.64	151.04	0.47	28.43
81.27	149.99	150.46	151.07	151.69	151.07	0.48	28.52
83.20	150.20	150.53	151.34	152.14	151.34	0.63	29.20
85.21	150.40	150.59	151.62	152.71	151.64	0.83	29.91
85.99	150.48	150.66	151.73	152.96	151.78	0.90	30.18
87.30	150.61	150.77	151.91	153.37	152.01	1.02	30.64
89.47	150.83	150.93	152.20	154.06	152.38	1.23	31.40
90.99	150.97	151.02	152.39	154.51	152.62	1.37	31.94
91.73	151.04	151.06	152.48	154.71	152.73	1.44	32.20
94.08	151.26	151.18	152.75	155.32	153.06	1.64	33.02
96.00	151.44	151.27	152.96	155.79	153.32	1.79	33.69
96.53	151.49	151.30	153.01	155.91	153.38	1.83	33.88
99.07	151.71	151.40	153.27	156.49	153.69	2.01	34.77
100.99	151.88	151.48	153.45	156.90	153.92	2.14	35.44
101.72	151.94	151.51	153.53	157.05	154.00	2.19	35.70
104.48	152.17	151.62	153.79	157.61	154.31	2.37	36.67
105.99	152.30	151.68	153.93	157.90	154.47	2.46	37.20
107.35	152.41	151.74	154.06	158.16	154.61	2.54	37.66
110.34	152.65	151.85	154.32	158.74	154.93	2.73	38.73
110.99	152.70	151.88	154.38	158.87	155.00	2.77	38.96
113.45	152.89	151.98	154.59	159.33	155.25	2.91	39.82
116.00	153.08	152.09	154.80	159.80	155.51	3.06	40.71

116.68	153.13	152.11	154.85	159.92	155.58	3.10	40.95
120.04	153.38	152.25	155.13	160.52	155.91	3.28	42.13
120.99	153.45	152.29	155.21	160.69	156.01	3.34	42.46
123.54	153.63	152.39	155.42	161.13	156.20	3.47	43.36
125.99	153.80	152.49	155.61	161.53	156.49	3.59	44.22
	153.88	152.54	155.70	161.72	156.59	3.65	44.64
130.96	154.13	152.68	155.97	162.36	156.94	3.85	45.96
131.00	154.13	152.68	155.97	162.37	156.94	3.85	45.98
134.89	154.39	152.84	156.30	163.06	157.33	4.07	47.34
135.99	154.46	152.89	156.41	163.27	157.45	4.13	47.73
138.98	154.65	153.02	156.70	163.84	157.78	4.30	48.78
140.98	154.77	153.09	156.85	164.17	157.96	4.41	49.48
143.22	154.91	153.11	156.93	164.45	158.09	4.51	50.27
145.98	155.07	153.10	156.96	164.75	158.19	4.64	51.23
147.62	155.17	153.10	157.00	164.97	158.27	4.73	51.81
150.98	155.37	153.19	157.35	165.67	158.65	4.97	52.99
152.20	155.44	153.26	157.60	166.05	158.88	5.09	53.42
156.00	155.65	153.50	158.63	167.46	159.78	5.52	54.75
156.96	155.70	153.52	158.63	167.46	159.78	5.52	54.75
161.00	155.92	153.19	158.56	167.98	159.82	5.86	56.51
161.92	155.97	153.02	158.24	167.78	159.59	5.86	56.83
166.00	156.19	152.07	156.85	166.87	158.48	5.91	58.26
167.14	156.25	151.87	156.68	166.81	158.34	5.97	58.66
170.85	156.44	151.69	157.31	167.88	158.86	6.43	59.96
171.00	156.45	151.70	157.38	167.97	158.91	6.46	60.02
172.83	156.54	151.93	158.55	169.30	159.84	6.86	60.66
174.09	156.60	152.13	158.68	170.53	160.71	7.23	61.10
174.97	156.65	152.29	160.59	171.51	161.41	7.54	61.41
175.64	156.68	152.40	161.30	172.29	161.95	7.78	61.64
176.00	156.70	152.47	161.68	172.71	162.25	7.92	61.77
175.15	156.71	152.50	161.84	172.89	162.37	7.97	61.83
176.57	156.73	152.58	162.26	173.35	162.70	8.12	61.97
176.92	156.74	152.64	162.57	173.71	162.95	8.24	62.10
177.22	156.76	152.70	162.81	174.02	163.15	8.33	62.20
178.31	156.81	153.56	165.19	176.68	165.22	9.03	62.58
180.94	156.94	159.61	171.60	183.02	171.43	9.15	63.51
181.96	156.99	161.96	174.01	185.48	173.83	9.19	DIFR
184.00	157.08	168.15	180.32	191.87	180.10	9.27	DIFR
185.00	157.13	171.18	183.40	194.99	183.21	9.30	DIFR
186.00	157.18	174.21	186.49	199.12	186.29	9.34	DIFR
187.00	157.22	177.21	189.58	201.24	189.36	9.39	DIFR
188.00	157.27	180.22	192.67	204.36	192.44	9.43	DIFR
189.00	157.32	183.24	195.76	207.48	195.51	9.47	DIFR

RUN NO. 41

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NM

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST IT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NM)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.06	127.66	127.57	127.72	127.88	127.72	0.12	1.78
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.93	138.20	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
33.65	141.03	141.61	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.06
50.87	145.94	145.35	145.51	145.67	145.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.55	147.44	147.97	148.14	148.32	148.15	0.13	21.25
61.00	147.51	148.04	148.21	148.39	148.22	0.14	21.41
61.71	147.61	148.15	148.32	148.50	148.33	0.14	21.66
62.92	147.78	148.33	148.51	148.69	148.51	0.14	22.08
64.16	147.95	148.51	148.70	148.89	148.70	0.15	22.52
65.45	148.12	148.70	148.89	149.09	148.89	0.15	22.97
65.99	148.19	148.78	148.97	149.17	148.97	0.15	23.15
68.79	148.29	148.89	149.08	149.29	149.09	0.16	23.44
68.17	148.47	149.07	149.28	149.50	149.29	0.17	23.93
69.60	148.65	149.26	149.49	149.72	149.49	0.18	24.43
71.00	148.82	149.44	149.68	149.93	149.68	0.19	24.92
71.09	148.83	149.45	149.69	149.94	149.70	0.19	24.95
72.63	149.02	149.64	149.91	150.18	149.91	0.21	25.49
74.23	149.21	149.83	150.12	150.43	150.13	0.24	26.05
75.89	149.40	150.01	150.35	150.70	150.35	0.27	26.64
76.00	149.41	150.02	150.36	150.72	150.37	0.27	26.67
77.62	149.60	150.18	150.58	150.99	150.58	0.32	27.24
79.41	149.79	150.33	150.82	151.32	150.82	0.39	27.87
81.00	149.96	150.44	151.04	151.64	151.04	0.47	28.43
81.27	149.93	150.45	151.07	151.70	151.08	0.49	28.52
83.20	150.20	150.53	151.34	152.15	151.34	0.63	29.20
85.21	150.40	150.58	151.62	152.72	151.64	0.83	29.91
85.99	150.48	150.65	151.73	152.96	151.78	0.90	30.18
87.30	150.61	150.76	151.91	153.38	152.01	1.02	30.64
89.47	150.83	150.92	152.20	154.06	152.38	1.23	31.40
90.99	150.97	151.01	152.39	154.51	152.62	1.38	31.94
91.73	151.04	151.06	152.48	154.71	152.73	1.44	32.20
94.08	151.26	151.17	152.74	155.32	153.06	1.64	33.02
96.00	151.44	151.26	152.96	155.79	153.31	1.79	33.69
96.53	151.46	151.29	153.01	155.92	153.38	1.93	33.88
99.07	151.71	151.39	153.29	156.51	153.70	2.02	34.77
100.99	151.88	151.47	153.47	156.91	153.92	2.15	35.44
101.72	151.94	151.50	153.53	157.06	154.00	2.20	35.70
104.48	152.17	151.55	153.77	157.60	154.29	2.38	36.67
105.39	152.30	151.65	153.92	157.89	154.45	2.47	37.20
107.35	152.41	151.71	154.06	158.17	154.61	2.56	37.68
110.34	152.65	151.84	154.36	158.79	154.96	2.75	38.73
110.99	152.70	151.85	154.42	158.92	155.03	2.80	38.96
113.45	152.89	151.94	154.59	159.35	155.25	2.94	39.82
116.00	153.08	152.00	154.73	159.75	155.45	3.08	40.71

116.68	153.13	152.02	154.78	159.87	155.51	3.11	40.95
120.04	153.38	152.17	155.13	160.55	155.90	3.32	42.13
120.99	153.45	152.22	155.26	160.77	156.03	3.39	42.46
123.54	153.63	152.34	155.57	161.33	156.36	3.56	43.36
125.98	153.80	152.40	155.70	161.68	156.53	3.68	44.22
127.18	153.88	152.39	155.70	161.78	156.57	3.73	44.64
130.96	154.13	152.36	155.70	162.18	156.68	3.91	45.96
131.00	154.13	152.36	155.71	162.19	156.68	3.91	45.98
134.89	154.39	152.57	156.29	163.16	157.27	4.20	47.34
135.99	154.46	152.67	156.56	163.55	157.53	4.31	47.73
138.98	154.65	152.84	157.21	164.50	158.12	4.61	48.78
140.98	154.77	152.81	157.26	164.76	158.21	4.72	49.48
143.22	154.91	152.63	156.90	164.62	157.97	4.75	50.27
145.98	155.07	152.30	156.34	164.35	157.58	4.80	51.23
147.62	155.17	152.17	156.22	164.43	157.51	4.89	51.81
150.98	155.37	152.33	156.88	165.47	158.14	5.22	52.99
152.20	155.44	152.48	157.48	166.20	158.64	5.43	53.42
156.00	155.65	152.84	160.03	169.15	160.63	6.39	54.75
156.96	155.70	152.83	160.43	169.66	160.94	6.59	55.09
161.00	155.92	152.21	158.64	168.28	159.64	6.32	56.51
161.92	155.97	151.95	157.89	167.61	159.07	6.18	56.83
164.61	156.12	151.14	156.19	166.18	157.73	5.99	57.77
165.00	156.19	151.74	158.48	168.61	159.54	6.64	58.26
167.14	156.25	151.98	160.36	170.59	160.94	7.28	58.66
170.85	156.44	155.53	166.47	177.05	166.36	8.41	59.96
171.00	156.45	155.76	166.72	177.31	166.60	8.42	60.02
171.28	156.46	156.09	167.18	177.85	167.05	8.50	DIFR
174.00	156.60	162.66	174.01	184.78	173.83	8.64	DIFR
175.00	156.65	165.09	176.32	187.32	176.32	8.69	DIFR
176.00	156.70	167.52	179.04	189.86	178.82	8.73	DIFR
177.00	156.75	169.95	181.55	192.41	181.32	8.78	DIFR
178.00	156.80	172.39	184.05	194.98	183.83	8.83	DIFR
179.00	156.84	174.84	186.57	197.55	186.33	8.87	DIFR
180.00	156.89	177.28	189.09	200.11	188.84	8.92	DIFR

RUN NO. 42

JOHNSON & GIEKHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NM

TERRAIN DELTA: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 30 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.06	127.66	127.57	127.72	127.88	127.72	0.12	1.78
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.83	138.29	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
30.85	141.63	141.81	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.08
50.87	145.94	146.35	146.51	146.67	146.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.55	147.44	147.97	148.14	148.32	148.15	0.13	21.25
61.00	147.51	148.04	148.21	148.39	148.22	0.14	21.41
61.71	147.61	148.15	148.32	148.50	148.33	0.14	21.66
62.92	147.78	148.33	148.51	148.69	148.51	0.14	22.08
64.76	147.95	148.51	148.70	148.89	148.70	0.15	22.52
65.45	148.12	148.70	148.89	149.09	148.89	0.15	22.97
65.99	148.19	148.78	148.97	149.17	148.97	0.15	23.16
66.79	148.29	148.89	149.08	149.29	149.09	0.16	23.44
68.17	148.47	149.07	149.28	149.50	149.29	0.17	23.93
69.60	148.65	149.26	149.49	149.72	149.49	0.18	24.43
71.00	148.82	149.44	149.69	149.93	149.68	0.19	24.92
71.09	148.83	149.45	149.69	149.94	149.70	0.19	24.95
72.63	149.02	149.64	149.91	150.18	149.91	0.21	25.49
74.23	149.21	149.83	150.12	150.43	150.13	0.24	26.05
75.89	149.40	150.01	150.35	150.70	150.35	0.27	26.64
76.00	149.41	150.02	150.36	150.72	150.37	0.27	26.67
77.62	149.60	150.18	150.58	150.99	150.58	0.32	27.24
79.41	149.79	150.33	150.82	151.32	150.82	0.39	27.87
81.00	149.96	150.44	151.04	151.64	151.04	0.47	28.43
81.27	149.99	150.45	151.07	151.70	151.08	0.49	28.52
83.20	150.20	150.53	151.34	152.15	151.34	0.63	29.20
85.21	150.40	150.58	151.62	152.72	151.64	0.83	29.91
85.99	150.48	150.65	151.73	152.96	151.78	0.90	30.18
87.30	150.61	150.76	151.91	153.38	152.01	1.02	30.64
89.47	150.83	150.92	152.20	154.06	152.38	1.23	31.40
90.99	150.97	151.01	152.39	154.51	152.62	1.39	31.94
91.73	151.04	151.06	152.48	154.71	152.73	1.44	32.20
94.08	151.26	151.17	152.74	155.32	153.06	1.64	33.02
96.00	151.44	151.26	152.96	155.79	153.31	1.79	33.69
96.53	151.49	151.29	153.01	155.92	153.38	1.83	33.88
99.07	151.71	151.39	153.29	156.51	153.70	2.02	34.77
100.99	151.88	151.47	153.47	156.91	153.92	2.15	35.44
101.72	151.94	151.50	153.53	157.06	154.00	2.20	35.70
104.48	152.17	151.59	153.77	157.60	154.29	2.38	36.67
105.99	152.30	151.65	153.92	157.89	154.45	2.47	37.20
107.35	152.41	151.71	154.06	158.17	154.61	2.56	37.68
110.34	152.65	151.84	154.36	158.79	154.96	2.75	38.73
110.99	152.70	151.86	154.42	158.92	155.03	2.80	38.96
113.45	152.80	151.94	154.59	159.35	155.25	2.94	39.82
116.00	153.09	152.00	154.73	159.75	155.45	3.09	40.71

116.68	153.13	152.02	154.78	159.87	155.51	3.11	40.95
120.04	153.38	152.17	155.13	160.55	155.90	3.32	42.13
120.99	153.45	152.22	155.26	160.77	156.03	3.39	42.46
123.54	153.63	152.34	155.57	161.33	156.36	3.56	43.36
125.98	153.80	152.40	155.70	161.68	156.53	3.68	44.22
127.18	153.88	152.39	155.70	161.78	156.57	3.73	44.64
130.96	154.13	152.36	155.70	162.18	156.68	3.91	45.96
131.00	154.13	152.36	155.71	162.19	156.68	3.91	45.98
131.80	154.19	152.38	155.76	162.33	156.76	3.96	46.26
134.89	154.39	152.98	157.54	164.41	158.26	4.50	47.34
135.99	154.46	153.12	158.17	165.16	158.77	4.72	47.73
138.98	154.65	153.38	159.89	167.19	160.14	5.40	48.78
140.98	154.77	153.49	161.05	168.54	161.03	5.88	49.48
143.22	154.91	154.27	162.33	170.05	162.23	6.16	50.27
144.42	154.98	154.66	163.03	170.92	162.88	6.35	DIFR
147.00	155.14	156.36	164.94	172.96	164.77	6.49	DIFR
148.00	155.19	157.03	165.69	173.76	165.51	6.54	DIFR
149.00	155.25	157.70	166.43	174.56	166.24	6.59	DIFR
150.00	155.31	158.33	167.17	175.36	166.97	6.65	DIFR
151.00	155.37	158.96	167.92	176.15	167.69	6.72	DIFR
152.00	155.43	159.59	168.66	176.98	168.43	6.80	DIFR
153.00	155.48	160.21	169.40	177.85	169.17	6.89	DIFR
154.00	155.54	160.84	170.15	178.72	169.92	6.99	DIFR
155.00	155.60	161.48	170.89	179.59	170.67	7.08	DIFR
156.00	155.65	162.12	171.63	180.45	171.42	7.16	DIFR
157.00	155.71	162.78	172.38	181.31	172.17	7.24	DIFR
158.00	155.76	163.43	173.12	182.17	172.92	7.32	DIFR
159.00	155.82	164.09	173.86	183.03	173.67	7.40	DIFR
160.00	155.87	164.72	174.61	183.89	174.42	7.49	DIFR
161.00	155.92	165.34	175.35	184.75	175.16	7.58	DIFR
162.00	155.98	165.97	176.10	185.61	175.90	7.67	DIFR
163.00	156.03	166.60	176.84	186.48	176.65	7.77	DIFR
164.00	156.08	167.24	177.59	187.35	177.41	7.86	DIFR
165.00	156.14	167.89	178.33	188.22	178.16	7.95	DIFR

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

RUN NO. 43

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.14	129.35	129.56	129.35	0.16	0.35
5.06	133.68	132.33	133.78	135.52	133.87	1.25	1.79
10.43	138.67	136.17	138.95	142.70	139.21	2.57	3.70
14.34	141.20	138.31	141.15	146.27	141.97	3.13	5.08
20.83	144.31	141.11	144.67	150.42	145.35	3.67	7.38
25.90	146.16	142.90	146.60	152.76	147.37	3.90	9.18
30.85	147.65	144.38	148.18	154.62	149.00	4.05	10.94
35.76	148.92	145.66	149.54	156.18	150.40	4.16	12.68
40.69	150.03	146.81	150.74	157.53	151.63	4.24	14.42
45.80	151.05	147.86	151.86	158.74	152.76	4.30	16.23
50.87	151.96	148.81	152.87	159.82	153.77	4.35	18.03
55.80	152.76	149.67	153.77	160.78	154.68	4.39	19.78
60.89	153.51	150.50	154.63	161.70	155.55	4.43	21.58
65.75	154.18	151.24	155.41	162.51	156.32	4.46	23.31
70.79	154.82	151.97	156.17	163.32	157.09	4.49	25.09
75.63	155.39	152.63	156.87	164.07	157.79	4.53	26.81
80.97	155.98	153.31	157.64	164.92	158.56	4.59	28.70
85.83	156.49	153.87	158.36	165.77	159.27	4.70	30.42
90.93	156.99	154.27	159.06	166.71	159.96	4.90	32.23
96.00	157.46	154.55	159.71	167.56	160.55	5.12	34.03
96.53	157.51	151.23	154.07	157.83	154.36	2.59	34.22
97.79	157.62	153.65	157.21	161.12	157.32	2.92	34.66
99.07	157.73	179.50	183.19	187.24	183.30	3.02	35.12
100.39	157.85	153.65	157.48	161.68	157.60	3.14	35.58
101.00	157.90	151.72	155.35	159.61	155.54	3.09	35.80
101.72	157.96	151.53	154.61	158.95	155.01	2.91	36.06
103.09	158.08	153.63	157.75	162.24	157.87	3.36	36.54
104.48	158.19	180.29	184.57	189.19	184.67	3.48	37.03
105.90	158.31	153.61	158.03	162.79	158.14	3.59	37.54
106.00	158.32	153.17	157.60	162.37	157.71	3.59	37.57
107.35	158.43	151.82	155.17	160.07	155.65	3.24	38.05
108.83	158.55	153.62	158.32	163.37	158.43	3.81	38.58
110.34	158.67	181.20	186.03	191.24	186.15	3.92	39.11
111.00	158.72	160.16	165.07	170.34	165.18	3.98	39.34
111.88	158.79	153.60	158.60	163.96	158.71	4.05	39.66
113.45	158.91	152.14	155.74	161.25	156.34	3.59	40.21
115.05	159.03	153.56	158.90	164.56	159.00	4.30	40.78
116.00	159.10	160.43	165.86	171.61	165.96	4.37	41.12
116.68	159.15	182.10	187.60	193.41	187.69	4.42	41.36
118.34	159.27	153.55	159.20	165.17	159.30	4.54	41.95
120.04	159.40	152.46	156.35	162.47	157.04	3.95	42.55
121.00	159.47	152.75	157.29	163.49	157.80	4.21	42.89
121.78	159.52	153.49	159.51	165.79	159.59	4.81	43.16
123.54	159.65	183.04	189.26	195.69	189.33	4.94	43.79
125.34	159.77	153.43	159.83	166.43	159.89	5.08	44.43
126.00	159.82	153.06	158.04	164.70	158.56	4.56	44.66
127.18	159.90	152.79	156.99	163.77	157.79	4.33	45.08
129.05	160.03	153.51	160.16	167.14	160.26	5.32	45.74
130.86	160.15	183.99	190.98	198.14	191.03	5.53	46.42
131.00	160.16	182.26	189.26	196.43	189.31	5.53	46.43
132.91	160.28	153.69	160.51	167.86	160.67	5.54	47.11
134.89	160.41	153.14	157.68	165.22	158.61	4.77	47.81

136.00	160.46	153.43	158.60	166.25	159.37	5.04	48.20
136.92	160.54	153.87	160.87	168.60	161.10	5.76	48.53
138.98	160.67	184.80	192.63	200.54	192.65	6.15	49.26
141.00	160.79	154.09	161.51	169.63	161.73	6.08	49.98
141.08	160.80	154.06	161.25	169.38	161.54	5.99	50.01
143.22	160.93	153.50	158.43	166.79	159.50	5.25	50.77
145.40	161.06	154.25	161.64	170.26	152.02	6.26	51.54
146.00	161.10	155.39	164.00	172.68	164.02	6.76	51.75
147.62	161.19	184.99	193.74	202.62	193.78	6.89	52.33
149.89	161.32	154.45	162.07	171.20	162.54	6.55	53.13
150.99	161.39	154.06	159.91	169.17	160.97	5.96	53.52
152.20	161.45	153.85	159.28	168.70	160.52	5.88	53.85
154.56	161.55	154.57	162.52	172.24	163.07	6.91	54.78
155.99	161.67	160.05	169.84	179.74	169.87	7.69	55.29
156.96	161.72	183.03	192.92	202.95	192.96	7.78	55.64
159.41	161.86	154.65	163.02	173.43	163.66	7.35	56.51
161.00	161.95	154.09	160.55	171.11	161.83	5.72	57.07
161.92	161.99	154.05	160.30	170.91	161.66	6.66	57.39
164.49	162.13	155.05	163.62	174.35	164.29	7.56	58.31
166.00	162.21	159.52	170.39	181.20	170.37	8.47	58.84
167.14	162.27	175.88	186.83	197.69	186.80	8.52	59.25
169.90	162.41	155.70	164.44	175.41	165.13	7.71	60.22
171.00	162.47	155.49	162.72	173.73	163.90	7.13	60.61
172.83	162.56	155.57	162.11	173.19	163.53	6.96	61.26
174.97	162.67	156.49	163.96	175.12	165.11	7.33	62.02
176.00	162.72	157.10	165.69	176.91	166.51	7.76	62.38
176.15	162.73	157.20	165.99	177.22	166.75	7.84	62.44
176.92	162.76	157.67	167.62	178.90	168.04	8.30	62.71
177.47	162.79	158.01	168.84	180.18	169.00	8.66	62.91
177.89	162.81	158.26	169.73	181.09	169.69	8.92	63.05
178.22	162.83	158.45	170.36	181.73	170.19	9.10	63.17
178.48	162.84	158.86	170.81	182.19	170.63	9.12	63.27
178.71	162.85	159.15	171.12	182.52	170.94	9.13	63.35
178.99	162.86	159.43	171.41	182.82	171.23	9.14	63.44
179.62	162.90	161.18	173.20	184.64	173.02	9.17	63.67
181.00	162.96	164.99	177.09	188.60	176.91	9.22	64.15
182.55	163.04	169.30	181.48	193.05	181.29	9.28	DIFR
185.00	163.15	178.58	190.94	202.59	190.72	9.38	DIFR
186.00	163.20	182.36	194.79	206.48	194.56	9.42	DIFR
187.00	163.24	186.14	198.65	210.37	198.40	9.47	DIFR
188.00	163.29	189.92	202.51	214.25	202.24	9.51	DIFR
189.00	163.34	193.44	206.09	217.87	205.82	9.55	SCAT
190.00	163.38	195.02	207.74	219.57	207.46	9.59	SCAT

RUN NO. 44

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTRO

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.20	129.35	129.50	129.35	0.12	0.35
5.06	133.68	133.63	133.78	133.94	133.78	0.12	1.79
10.43	138.67	138.70	138.85	139.00	138.85	0.12	3.70
14.34	141.20	141.30	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.67	0.12	7.38
25.90	146.16	146.45	146.60	146.76	146.60	0.12	9.18
30.85	147.65	148.03	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.39	149.54	149.69	149.54	0.12	12.68
40.69	150.03	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.76	153.61	153.77	153.94	153.77	0.13	19.78
60.89	153.51	154.46	154.63	154.81	154.64	0.14	21.58
65.75	154.18	155.22	155.41	155.61	155.41	0.15	23.31
70.79	154.82	155.86	156.17	156.49	156.17	0.24	25.09
75.63	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	155.98	156.30	157.64	159.15	157.69	1.11	28.70
85.83	156.49	156.43	158.36	160.55	158.44	1.61	30.42
90.93	156.99	156.38	159.08	162.09	159.18	2.23	32.23
96.00	157.46	156.34	159.71	163.41	159.81	2.76	34.03
96.53	157.51	156.93	159.77	163.53	160.06	2.59	34.22
97.79	157.62	157.02	159.91	163.82	160.23	2.67	34.66
99.07	157.73	157.10	160.05	164.11	160.40	2.75	35.12
100.39	157.85	157.18	160.20	164.40	160.57	2.83	35.56
101.00	157.90	157.22	160.26	164.52	160.64	2.87	35.80
101.72	157.96	157.26	160.34	164.68	160.73	2.91	36.06
103.09	158.08	157.34	160.49	164.97	160.90	3.00	36.54
104.48	158.19	157.42	160.63	165.25	161.07	3.08	37.03
105.90	158.31	157.50	160.78	165.54	161.24	3.16	37.54
106.00	158.32	157.50	160.79	165.56	161.25	3.17	37.57
107.35	158.43	157.58	160.93	165.83	161.41	3.24	38.05
108.83	158.55	157.66	161.07	166.13	161.59	3.33	38.58
110.34	158.67	157.75	161.22	166.43	161.76	3.41	39.11
111.00	158.72	157.79	161.29	166.56	161.84	3.45	39.34
111.88	158.79	157.83	161.38	166.73	161.94	3.50	39.66
113.45	158.91	157.92	161.53	167.04	162.12	3.59	40.21
115.05	159.03	158.01	161.68	167.35	162.30	3.68	40.78
116.00	159.10	158.06	161.77	167.53	162.41	3.73	41.12
116.68	159.15	158.09	161.84	167.66	162.49	3.77	41.36
118.34	159.27	158.18	162.00	167.97	162.67	3.86	41.95
120.04	159.40	158.27	162.16	168.28	162.86	3.95	42.55
121.00	159.47	158.32	162.25	168.46	162.96	4.00	42.89
121.78	159.52	158.36	162.32	168.60	163.04	4.04	43.16
123.54	159.65	158.44	162.49	168.92	163.23	4.13	43.79
125.34	159.77	158.53	162.65	169.25	163.43	4.23	44.43
126.00	159.82	158.57	162.71	169.37	163.50	4.26	44.66
127.18	159.90	158.62	162.82	169.61	163.63	4.33	45.08
129.05	160.03	158.71	163.00	169.97	163.84	4.44	45.74
130.96	160.15	158.81	163.17	170.34	164.05	4.55	46.42
131.00	160.16	158.81	163.18	170.34	164.05	4.55	46.43
132.91	160.28	158.90	163.35	170.71	164.26	4.66	47.11
134.83	160.41	158.99	163.54	171.08	164.47	4.77	47.81

136.00	160.48	159.05	163.64	171.28	164.56	4.83	48.20
136.92	160.54	159.09	163.72	171.45	164.69	4.86	48.53
138.98	160.67	159.19	163.91	171.83	164.91	5.00	49.26
141.00	160.79	159.27	164.10	172.23	165.13	5.12	49.98
141.08	160.80	159.28	164.11	172.24	165.14	5.12	50.01
143.22	160.93	159.37	164.30	172.66	165.37	5.25	50.77
145.40	161.06	159.46	164.51	173.12	165.62	5.40	51.54
146.00	161.10	159.49	164.56	173.25	165.69	5.44	51.75
147.62	161.19	159.56	164.72	173.60	165.88	5.55	52.33
149.89	161.32	159.65	164.92	174.06	166.13	5.70	53.13
150.99	161.39	159.69	165.01	174.28	166.24	5.77	53.52
152.20	161.46	159.69	165.12	174.54	166.36	5.86	53.95
154.56	161.59	159.69	165.36	175.09	166.63	6.09	54.78
155.99	161.67	159.70	165.55	175.46	166.82	6.23	55.29
156.96	161.72	159.71	165.67	175.70	166.94	6.32	55.64
159.41	161.86	159.60	165.82	176.24	167.13	6.57	56.51
161.00	161.95	159.57	165.81	176.37	167.16	6.64	57.07
161.92	161.99	159.58	165.83	176.44	167.19	6.66	57.39
164.49	162.13	159.73	166.30	177.04	167.60	6.83	58.31
166.00	162.21	159.87	166.90	177.71	168.08	7.03	58.84
167.14	162.27	159.92	167.30	178.16	168.39	7.17	59.25
169.90	162.41	159.60	166.77	177.74	167.95	7.14	60.22
171.00	162.47	159.33	166.14	177.15	167.45	7.03	60.51
172.83	162.56	158.97	165.50	176.58	166.92	6.96	61.26
174.97	162.67	158.95	156.11	177.26	167.35	7.21	62.02
176.00	162.72	159.08	166.97	178.18	168.01	7.50	62.38
176.15	162.73	159.11	167.12	178.35	168.12	7.56	62.44
176.92	162.76	159.23	167.98	179.27	168.77	7.85	62.71
177.47	162.79	159.33	168.64	179.98	169.27	8.08	62.91
177.89	162.81	159.41	169.13	180.49	169.64	8.24	63.05
178.22	162.83	159.47	169.48	180.66	169.91	8.36	63.17
178.43	162.84	159.51	169.70	181.08	170.07	8.43	63.24
178.48	162.84	159.54	169.89	181.27	170.21	8.49	63.27
178.71	162.85	159.64	170.63	182.03	170.75	8.75	63.35
179.62	162.90	161.60	173.63	185.07	173.45	9.17	63.67
181.00	162.96	166.05	178.15	189.65	177.96	9.22	64.16
181.96	163.01	169.16	181.32	192.86	181.12	9.26	DIFR
184.00	163.10	176.97	189.24	200.86	189.04	9.33	DIFR
185.00	163.15	180.77	193.13	204.78	192.91	9.38	DIFR
186.00	163.20	184.57	197.01	208.70	196.78	9.42	DIFR
187.00	163.24	188.39	200.89	212.61	200.65	9.47	DIFR
188.00	163.29	192.19	204.78	216.53	204.52	9.51	DIFR
189.00	163.34	194.45	207.10	218.88	206.83	9.55	SCA1

RUN NO. 45

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSI

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSI

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NM

TERRAIN ELEVATION: 30 FT REFRACTIVITY: 1.331 CRITICAL FREQUENCY: 4.423 NM

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINED MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HEIGHT SPECIFIED AT 25 FT ABOVE MSI

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NM)
0.99	129.29	129.20	129.35	129.50	129.35	0.12	0.35
5.06	133.68	133.63	133.78	133.94	133.78	0.12	1.79
10.43	138.67	138.70	138.85	139.00	138.85	0.12	3.70
14.34	141.20	141.30	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.67	0.12	7.33
25.90	146.16	146.45	146.60	146.76	146.60	0.12	9.18
30.85	147.65	148.03	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.39	149.54	149.69	149.54	0.12	12.68
40.69	150.03	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.76	153.61	153.77	153.94	153.77	0.13	19.78
60.89	153.51	154.46	154.63	154.81	154.64	0.14	21.58
65.75	154.18	155.22	155.41	155.61	155.41	0.15	23.31
70.79	154.82	155.86	156.17	156.49	156.17	0.24	25.09
75.63	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	155.98	156.30	157.64	159.15	157.69	1.11	28.70
85.83	156.49	156.43	158.36	160.55	156.44	1.61	30.42
90.93	156.99	156.38	159.08	162.09	159.18	2.23	32.23
96.00	157.46	156.34	159.71	163.41	159.81	2.76	34.03
96.53	157.51	156.93	159.77	163.53	160.06	2.59	34.22
97.79	157.62	157.02	159.91	163.82	160.23	2.67	34.66
99.07	157.73	157.10	160.05	164.11	160.40	2.75	35.12
100.39	157.85	157.18	160.20	164.40	160.57	2.83	35.58
101.00	157.90	157.22	160.26	164.53	160.64	2.87	35.80
101.72	157.96	157.26	160.34	164.68	160.73	2.91	36.06
103.09	158.08	157.31	160.49	164.97	160.90	3.00	36.54
104.48	158.19	157.42	160.63	165.25	161.07	3.08	37.03
105.90	158.31	157.50	160.78	165.54	161.24	3.16	37.54
106.00	158.32	157.50	160.79	165.56	161.25	3.17	37.57
107.35	158.43	157.58	160.93	165.83	161.41	3.24	38.05
108.83	158.55	157.66	161.07	166.13	161.59	3.32	38.58
110.34	158.67	157.75	161.22	166.43	161.76	3.41	39.11
111.00	158.72	157.75	161.29	166.56	161.84	3.45	39.34
111.88	158.79	157.83	161.38	166.72	161.94	3.50	39.66
113.45	158.91	157.92	161.53	167.04	162.12	3.59	40.21
115.05	159.03	158.01	161.68	167.35	162.30	3.68	40.78
116.00	159.10	158.06	161.77	167.53	162.41	3.73	41.12
116.68	159.15	158.09	161.84	167.66	162.49	3.77	41.36
118.34	159.27	158.18	162.00	167.97	162.67	3.86	41.95
120.04	159.40	158.27	162.16	168.28	162.86	3.95	42.55
121.00	159.47	158.32	162.25	168.46	162.96	4.00	42.89
121.78	159.52	158.36	162.32	168.60	163.04	4.04	43.16
123.54	159.65	158.44	162.49	168.92	163.23	4.13	43.79
125.34	159.77	158.53	162.65	169.25	163.43	4.23	44.43
126.00	159.82	158.57	162.71	169.37	163.50	4.26	44.66
127.18	159.90	158.62	162.82	169.61	163.63	4.33	45.08
129.05	160.03	158.71	163.00	169.97	163.84	4.44	45.74
130.96	160.15	158.81	163.17	170.34	164.05	4.55	46.42
131.00	160.16	158.81	163.18	170.34	164.05	4.55	46.43
132.91	160.28	158.90	163.35	170.71	164.26	4.66	47.11
134.89	160.41	158.99	163.54	171.08	164.47	4.77	47.81

136.00	160.48	159.0	163.64	171.28	164.59	4.83	48.20
136.92	160.54	159.09	163.72	171.45	164.69	4.88	48.53
138.58	160.67	159.19	163.91	171.83	164.91	5.00	49.26
141.00	160.79	159.27	164.10	172.23	165.13	5.12	49.98
141.08	160.80	159.28	164.11	172.24	165.14	5.12	50.01
143.22	160.93	159.37	164.30	172.66	165.37	5.25	50.77
145.40	161.06	159.46	164.51	173.12	165.62	5.40	51.54
146.00	161.10	159.49	164.56	173.25	165.69	5.44	51.75
147.62	161.19	159.56	164.72	173.60	165.88	5.55	52.33
149.89	161.32	159.65	161.92	174.05	166.13	5.70	53.13
150.99	161.39	159.69	165.01	174.28	166.24	5.77	53.52
152.20	161.46	159.69	165.12	174.54	166.36	5.88	53.95
154.56	161.59	159.69	165.36	175.09	166.63	6.09	54.78
155.95	161.67	159.70	165.55	175.46	166.82	6.23	55.29
156.96	161.72	159.71	165.67	175.70	166.94	6.32	55.64
159.41	161.86	159.60	165.82	176.24	167.13	6.57	56.51
161.00	161.95	159.57	165.81	176.37	167.16	6.64	57.07
161.92	161.99	159.58	165.83	176.44	167.19	6.66	57.39
164.49	162.13	159.73	166.30	177.04	167.60	6.83	58.31
166.00	162.21	159.87	166.90	177.71	168.08	7.03	58.84
166.16	162.22	159.88	166.97	177.78	168.13	7.05	58.90
167.14	162.27	160.18	168.52	179.37	169.30	7.52	59.25
169.90	162.41	161.70	172.85	183.62	172.79	8.64	60.22
171.00	162.47	163.32	174.58	185.59	174.50	8.70	60.61
171.28	162.48	163.62	175.03	186.11	174.93	8.78	DIFR
174.00	162.62	170.60	182.23	193.41	182.09	8.91	DIFR
175.00	162.67	173.18	184.89	196.09	184.73	8.95	DIFR
176.00	162.72	175.75	187.54	198.80	187.37	9.00	DIFR
177.00	162.77	178.34	190.19	201.50	190.02	9.05	DIFR
178.00	162.82	180.92	192.84	204.21	192.67	9.10	DIFR
179.00	162.87	183.51	195.49	206.91	195.32	9.14	DIFR
180.00	162.91	186.10	198.15	209.61	197.96	9.18	DIFR

RUN NO. 46

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA n: 50FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.20	129.35	129.50	129.35	0.12	0.35
5.06	133.60	133.63	133.78	133.94	133.78	0.12	1.79
10.43	138.67	138.70	138.85	139.00	138.85	0.12	3.70
14.34	141.20	141.30	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.57	0.12	7.38
25.90	146.16	146.45	146.60	146.76	146.60	0.12	9.18
30.85	147.65	148.03	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.39	149.54	149.69	149.54	0.12	12.68
40.69	150.03	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.76	153.61	153.77	153.94	153.77	0.13	19.78
60.89	153.51	154.46	154.63	154.81	154.64	0.14	21.58
65.75	154.18	155.22	155.41	155.61	155.41	0.15	23.31
70.79	154.82	155.86	156.17	156.49	156.17	0.24	25.09
75.63	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	155.93	156.30	157.64	159.15	157.69	1.11	28.70
85.83	156.49	156.43	158.36	160.55	158.44	1.61	30.42
90.93	156.99	156.38	159.08	162.09	159.18	2.23	32.23
96.00	157.46	156.34	159.71	163.41	159.81	2.76	34.03
96.53	157.51	156.93	159.77	163.53	160.06	2.59	34.22
97.79	157.62	157.02	159.91	163.82	160.23	2.67	34.66
99.07	157.73	157.10	160.05	164.11	160.40	2.75	35.12
100.39	157.85	157.18	160.20	164.40	160.57	2.83	35.58
101.00	157.90	157.22	160.26	164.53	160.64	2.87	35.80
101.72	157.96	157.26	160.34	164.68	160.73	2.91	36.06
103.09	158.08	157.34	160.49	164.97	160.90	3.00	36.54
104.48	158.19	157.42	160.63	165.25	161.07	3.08	37.03
105.90	158.31	157.50	160.78	165.54	161.24	3.16	37.54
106.00	158.32	157.50	160.79	165.56	161.25	3.17	37.57
107.35	158.43	157.58	160.93	165.83	161.41	3.24	38.05
108.83	158.55	157.66	161.07	166.13	161.59	3.33	38.58
110.34	158.67	157.75	161.22	166.43	161.76	3.41	39.11
111.00	158.72	157.79	161.29	166.56	161.84	3.45	39.34
111.88	158.79	157.83	161.38	166.73	161.94	3.50	39.66
113.45	158.91	157.92	161.53	167.04	162.12	3.59	40.21
115.05	159.03	158.01	161.68	167.35	162.30	3.68	40.78
116.00	159.10	158.06	161.77	167.53	162.41	3.73	41.12
116.68	159.15	158.09	161.84	167.66	162.49	3.77	41.36
116.34	159.27	158.18	162.00	167.97	162.67	3.86	41.95
120.04	159.40	158.27	162.16	168.28	162.86	3.95	42.55
121.00	159.47	158.32	162.25	168.46	162.96	4.00	42.89
121.78	159.52	158.36	162.32	168.60	163.04	4.04	43.16
123.54	159.65	158.44	162.49	168.92	163.23	4.13	43.79
125.34	159.77	158.53	162.65	169.25	163.43	4.23	44.43
126.00	159.82	158.57	162.71	169.37	163.50	4.26	44.66
127.18	159.90	158.62	162.82	169.61	163.63	4.33	45.08
129.05	160.03	158.71	163.00	169.97	163.84	4.44	45.74
130.96	160.15	158.81	163.17	170.34	164.05	4.55	46.42
131.00	160.16	158.81	163.18	170.34	164.05	4.55	46.43
132.91	160.28	158.90	163.35	170.71	164.26	4.66	47.11
134.89	160.41	159.99	163.54	171.08	164.47	4.77	47.81

135.45	160.45	159.02	163.59	171.18	164.53	4.80	48.31
136.00	160.48	159.16	164.00	171.65	164.88	4.92	48.20
136.92	160.54	159.37	164.70	172.43	165.45	5.13	48.53
138.98	160.67	159.73	166.27	174.19	166.70	5.65	49.26
141.00	160.79	160.01	167.81	175.94	167.91	6.22	49.98
141.08	160.80	160.02	167.87	176.01	167.96	6.25	50.01
144.42	161.00	161.82	170.42	178.82	170.36	6.64	DIFR
147.00	161.16	163.62	172.41	180.94	172.33	6.77	DIFR
148.00	161.21	164.30	173.19	181.77	173.09	6.82	DIFR
149.00	161.27	164.96	173.96	182.60	173.85	6.89	DIFR
150.00	161.33	165.63	174.74	183.42	174.60	6.95	DIFR
151.00	161.39	166.30	175.51	184.24	175.36	7.01	DIFR
152.00	161.45	166.97	176.29	185.09	176.13	7.08	DIFR
153.00	161.50	167.64	177.06	185.99	176.91	7.17	DIFR
154.00	161.56	168.32	177.84	186.88	177.69	7.25	DIFR
155.00	161.62	169.00	178.62	187.77	178.47	7.33	DIFR
156.00	161.67	169.69	179.39	188.66	179.26	7.41	DIFR
157.00	161.73	170.38	180.17	189.55	180.04	7.49	DIFR
158.00	161.78	171.06	180.95	190.44	180.83	7.57	DIFR
159.00	161.84	171.71	181.72	191.33	181.60	7.67	DIFR
160.00	161.89	172.36	182.50	192.22	182.37	7.76	DIFR
161.00	161.95	173.02	183.28	193.10	183.14	7.85	DIFR
162.00	162.00	173.68	184.06	193.99	183.92	7.93	DIFR
163.00	162.05	174.35	184.83	194.87	184.70	8.01	DIFR
164.00	162.11	175.03	185.61	195.75	185.47	8.09	DIFR
165.00	162.16	175.71	186.39	196.62	186.25	8.17	DIFR
166.00	162.21	176.40	187.17	197.50	187.03	8.24	DIFR

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 54 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

RUN NO. 47

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.69	132.90	133.12	132.90	0.16	0.35
5.06	137.20	135.91	137.36	139.09	137.45	1.25	1.80
10.43	142.19	139.78	142.46	146.32	142.83	2.57	3.71
14.34	144.73	141.96	145.10	149.91	145.62	3.13	5.11
20.83	147.83	144.81	148.37	154.12	149.06	3.67	7.42
25.90	149.68	146.65	150.35	156.51	151.12	3.90	9.23
30.85	151.17	148.17	151.98	158.41	152.80	4.05	10.99
35.76	152.44	149.50	153.38	160.01	154.24	4.16	12.74
40.69	153.55	150.69	154.63	161.42	155.52	4.24	14.48
45.80	154.57	151.79	155.79	162.67	156.69	4.30	16.31
50.87	155.48	152.79	156.85	163.80	157.75	4.35	18.12
55.80	156.28	153.70	157.80	164.81	158.71	4.39	19.88
60.89	157.04	154.58	158.72	165.78	159.63	4.43	21.69
65.75	157.70	155.37	159.55	166.66	160.46	4.46	23.42
70.79	158.34	156.14	160.37	167.55	161.29	4.51	25.21
75.63	158.91	156.84	161.13	168.39	162.06	4.56	26.94
80.97	159.50	157.59	161.96	169.32	162.89	4.63	28.84
85.80	160.01	158.21	162.75	170.23	163.67	4.75	30.57
90.93	160.51	158.67	163.54	171.25	164.43	4.96	32.39
95.99	160.98	159.03	164.24	172.17	165.09	5.17	34.19
100.76	161.40	159.34	164.85	172.96	165.66	5.35	35.89
105.90	161.83	159.98	165.82	174.09	166.58	5.54	37.72
110.88	162.23	160.75	166.92	175.36	167.63	5.73	39.49
115.99	162.62	161.56	168.08	176.68	168.73	5.92	41.31
115.88	162.67	161.00	160.93	167.22	161.36	4.39	41.56
117.79	162.75	158.27	164.06	170.46	164.25	4.76	41.95
118.91	162.84	187.19	193.08	199.58	193.27	4.84	42.35
120.04	162.92	158.30	164.31	170.92	164.50	4.93	42.76
121.00	162.99	156.25	161.49	168.19	161.94	4.68	43.10
121.19	163.00	156.24	161.43	169.15	161.91	4.67	43.17
122.36	163.09	158.29	164.57	171.39	164.74	5.12	43.58
123.54	163.17	187.88	194.29	201.22	194.45	5.21	44.00
124.74	163.25	158.30	164.84	171.87	164.99	5.30	44.43
125.95	163.34	156.48	161.96	169.12	162.49	4.95	44.86
126.00	163.34	156.49	161.97	169.13	162.49	4.95	44.88
127.18	163.42	158.35	165.11	172.39	165.27	5.49	45.30
128.43	163.51	188.67	195.54	202.95	195.71	5.58	45.74
129.69	163.59	158.35	165.39	172.92	165.54	5.69	46.19
130.96	163.67	156.73	162.52	170.21	163.11	5.28	46.65
131.00	163.68	156.74	162.53	170.22	163.12	5.28	46.66
132.26	163.76	158.34	165.66	173.51	165.83	5.93	47.11
133.57	163.85	189.33	196.81	204.79	196.96	6.04	47.57
134.89	163.93	158.36	165.88	174.11	165.14	6.15	48.05
136.00	164.01	156.99	163.18	171.44	163.83	5.67	48.44
136.24	164.02	156.98	163.12	171.41	163.79	5.66	48.53
137.60	164.10	158.42	166.29	174.72	166.47	6.37	49.01
138.98	164.19	189.96	198.02	206.61	198.18	6.50	49.50
140.37	164.28	158.38	166.61	175.35	166.77	6.63	50.00
141.00	164.32	157.37	164.53	173.34	165.04	6.25	50.22
141.79	164.36	157.23	163.77	172.66	164.50	6.05	50.50
143.22	164.45	158.36	166.95	176.03	167.10	6.90	51.01
144.67	164.54	190.26	199.02	208.32	199.19	7.00	51.53

146.00	164.62	159.05	167.97	177.46	168.15	7.19	52.00
146.14	164.63	158.35	167.29	176.80	167.47	7.21	52.05
147.62	164.71	157.32	164.47	174.19	165.27	6.62	52.58
149.13	164.80	158.26	167.66	177.65	167.84	7.58	53.12
150.66	164.89	189.89	199.51	209.70	199.69	7.74	53.66
151.00	164.91	170.36	180.00	190.21	180.18	7.76	53.78
152.20	164.98	158.29	168.04	178.30	168.20	7.82	54.21
153.77	165.07	157.58	165.23	175.55	166.06	7.05	54.77
155.36	165.16	158.45	168.45	178.82	168.56	7.96	55.33
156.90	165.19	162.38	172.42	182.82	172.53	7.98	55.56
158.96	165.25	188.71	198.82	209.25	198.92	8.02	55.91
158.59	165.34	158.60	168.88	179.37	168.95	8.11	56.49
160.24	165.43	158.10	166.11	176.67	166.90	7.28	57.09
161.00	165.47	158.27	165.77	177.37	167.43	7.48	57.34
161.92	165.52	158.75	169.36	180.00	169.37	8.30	57.67
163.63	165.61	185.11	195.85	206.56	195.85	8.39	58.28
165.37	165.70	159.02	169.90	180.71	169.88	8.47	58.90
166.00	165.73	158.85	168.15	178.99	168.63	7.87	59.13
167.14	165.79	158.80	167.21	178.10	167.96	7.56	59.53
168.97	165.89	159.44	170.56	181.52	170.51	8.62	60.18
170.85	165.98	177.86	189.19	200.22	189.10	8.73	60.85
171.00	165.99	176.04	187.38	198.42	187.28	8.74	60.91
172.83	166.08	160.14	171.48	182.58	171.41	8.77	61.56
174.97	166.19	160.36	169.26	180.46	169.98	7.87	62.32
176.30	166.24	160.78	170.16	181.45	170.75	8.09	62.69
176.57	166.27	161.08	171.09	182.39	171.49	8.33	62.89
177.48	166.31	161.61	173.03	184.41	173.02	8.91	63.21
179.06	166.34	162.53	174.51	185.92	174.33	9.14	63.42
178.46	166.36	163.58	175.58	187.01	175.40	9.15	63.57
178.81	166.38	164.32	176.35	187.79	176.17	9.17	63.69
179.07	166.39	164.83	176.87	188.33	176.69	9.18	63.78
179.28	166.40	165.18	177.24	188.70	177.05	9.19	63.86
179.45	166.41	165.42	177.48	188.96	177.30	9.19	63.92
179.51	166.41	165.48	177.55	189.03	177.37	9.20	63.94
180.18	166.44	167.72	179.82	191.33	179.64	9.22	64.18
181.00	166.48	170.49	182.64	194.10	182.45	9.26	64.47
182.55	166.56	175.71	187.94	199.54	187.74	9.31	DIFR
185.00	166.67	186.40	198.82	210.51	198.59	9.42	DIFR
186.00	166.72	190.76	203.26	214.98	203.02	9.46	DIFR
187.00	166.77	195.12	207.70	219.45	207.44	9.50	DIFR
188.00	166.81	199.38	212.03	223.80	211.76	9.54	SCAT
189.00	166.86	201.33	214.04	225.86	213.76	9.59	SCAT
190.00	166.90	203.04	215.82	227.70	215.64	9.63	SCAT

JOHNSON & OERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

RUN NO. 48

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.75	132.90	133.05	132.90	0.12	0.35
5.06	137.20	137.21	137.36	137.51	137.36	0.12	1.80
10.43	142.19	142.31	142.46	142.62	142.47	0.12	3.71
14.34	144.73	144.95	145.10	145.25	145.10	0.12	5.11
20.83	147.83	148.22	148.37	148.52	148.37	0.12	7.42
25.90	149.68	150.20	150.35	150.50	150.35	0.12	9.23
30.95	151.17	151.83	151.98	152.13	151.98	0.12	10.99
35.76	152.44	153.23	153.38	153.53	153.38	0.12	12.74
40.69	153.55	154.48	154.63	154.78	154.63	0.12	14.49
45.80	154.67	155.64	155.79	155.95	155.79	0.12	16.31
50.87	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.80	156.20	157.64	157.80	157.97	157.80	0.13	19.88
60.89	157.04	158.55	158.72	158.90	158.72	0.14	21.69
65.76	157.70	159.03	159.55	160.10	159.56	0.42	23.42
70.79	158.34	159.35	160.37	161.52	160.41	0.85	25.21
75.63	158.91	159.70	161.13	162.82	161.21	1.22	26.94
80.97	159.50	160.12	161.96	164.23	162.09	1.61	28.84
85.83	160.01	160.42	162.75	165.60	162.91	2.03	30.57
90.93	160.51	160.63	163.54	167.12	163.72	2.50	32.39
95.99	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.76	161.40	160.74	164.85	169.58	165.04	3.46	35.89
105.90	161.83	161.20	165.82	171.05	166.01	3.85	37.72
110.88	162.23	161.82	166.92	172.64	167.11	4.23	39.49
115.99	162.62	162.46	168.08	174.30	168.27	4.63	41.31
116.88	162.67	161.80	168.73	173.02	167.15	4.39	41.56
117.79	162.75	161.86	168.86	173.25	167.30	4.46	41.95
118.91	162.84	161.93	168.99	173.49	167.44	4.53	42.35
120.04	162.92	161.99	167.12	173.73	167.58	4.60	42.70
121.00	162.99	162.05	167.23	173.92	167.70	4.65	43.10
121.19	163.00	162.06	167.25	173.96	167.72	4.67	43.17
122.36	163.09	162.12	167.38	174.20	167.87	4.73	43.58
123.54	163.17	162.19	167.52	174.45	168.02	4.80	44.00
124.74	163.25	162.25	167.65	174.69	168.16	4.87	44.43
125.95	163.34	162.32	167.79	174.95	168.32	4.95	44.86
126.00	163.34	162.32	167.80	174.96	168.32	4.95	44.88
127.18	163.42	162.38	167.93	175.22	168.47	5.03	45.30
128.43	163.51	162.45	168.08	175.49	168.63	5.11	45.74
129.69	163.59	162.52	168.22	175.76	168.79	5.19	46.19
130.96	163.67	162.58	168.37	176.05	168.96	5.28	46.65
131.00	163.68	162.58	168.37	176.06	168.97	5.28	46.66
132.26	163.76	162.65	168.52	176.35	169.13	5.37	47.11
133.57	163.85	162.71	168.67	176.66	169.30	5.47	47.57
134.89	163.93	162.78	168.83	176.96	169.48	5.56	48.05
135.00	164.00	162.83	168.98	177.21	169.62	5.64	48.44
136.24	164.02	162.84	168.98	177.27	169.65	5.66	48.53
137.60	164.10	162.91	169.14	177.58	169.83	5.75	49.01
138.98	164.19	162.98	169.30	177.89	170.01	5.85	49.50
140.37	164.28	163.05	169.47	178.21	170.19	5.95	50.00
141.70	164.32	163.08	169.54	178.35	170.27	5.99	50.22
141.79	164.36	163.10	169.64	178.53	170.37	6.05	50.50
143.22	164.45	163.13	169.81	178.89	170.56	6.18	51.01
144.67	164.54	163.15	169.98	179.28	170.75	6.33	51.53

146.00	164.62	163.17	170.14	179.62	170.92	6.45	52.00
146.14	164.63	163.17	170.16	179.66	170.94	6.47	52.05
147.62	164.71	163.19	170.34	180.06	171.14	6.62	52.58
149.13	164.80	163.18	170.52	180.51	171.35	6.80	53.12
150.66	164.89	163.21	170.71	180.90	171.55	6.94	53.66
151.00	164.91	163.24	170.75	180.96	171.59	6.95	53.78
152.20	164.98	163.33	170.90	181.15	171.73	6.99	54.21
153.77	165.07	163.44	171.09	181.40	171.92	7.05	54.77
155.35	165.16	163.55	171.29	181.66	172.11	7.10	55.33
156.00	165.19	163.60	171.37	181.77	172.19	7.13	55.56
156.96	165.25	163.66	171.50	181.93	172.31	7.16	55.91
158.59	165.34	163.77	171.70	182.16	172.49	7.21	56.49
160.24	165.43	163.88	171.88	182.44	172.68	7.28	57.08
161.00	165.47	163.93	171.98	182.58	172.77	7.31	57.34
161.92	165.52	163.99	172.12	182.77	172.91	7.36	57.67
163.63	165.61	164.10	172.41	183.14	173.17	7.46	58.28
165.37	165.70	164.17	172.57	183.38	173.32	7.53	58.90
166.00	165.73	164.18	172.57	183.41	173.33	7.53	59.13
167.14	165.79	164.19	172.58	183.48	173.37	7.56	59.53
168.97	165.89	164.24	173.03	184.00	173.71	7.74	60.18
170.85	165.98	164.27	173.89	184.92	174.33	8.07	60.85
171.00	165.99	164.27	173.93	184.97	174.36	8.09	60.91
172.83	166.08	164.05	173.51	184.61	174.02	8.04	61.56
174.97	166.19	163.65	172.55	183.75	173.27	7.87	62.32
176.00	166.24	163.56	172.75	184.02	173.40	8.01	62.69
176.57	166.27	163.55	173.11	184.41	173.65	8.16	62.89
177.48	166.31	163.57	173.95	185.37	174.29	8.52	63.21
178.06	166.34	163.61	174.69	186.10	174.79	8.78	63.42
178.48	166.36	163.64	175.22	186.64	175.17	8.99	63.57
178.81	166.38	163.67	175.61	187.05	175.45	9.13	63.69
178.94	166.38	163.72	175.76	187.21	175.57	9.17	63.73
179.07	166.39	164.22	176.26	187.72	176.08	9.18	63.78
179.28	166.40	165.05	177.10	188.57	176.92	9.19	63.86
179.45	166.41	165.74	177.81	189.28	177.62	9.19	63.92
180.18	166.44	168.58	180.69	192.19	180.50	9.22	64.18
181.00	166.48	171.81	183.97	195.50	183.77	9.26	64.47
181.96	166.53	175.58	187.78	199.36	187.59	9.29	DIFR
184.00	166.63	184.55	196.90	208.55	196.68	9.38	DIFR
185.00	166.67	188.93	201.36	213.04	201.13	9.42	DIFR
186.00	166.72	193.32	205.82	217.54	205.57	9.46	DIFR
187.00	166.77	197.71	210.28	222.03	210.02	9.50	DIFR
188.00	166.81	200.61	213.26	225.03	212.98	9.54	SCAT
189.00	166.86	202.40	215.12	226.94	214.84	9.59	SCAT

RUN NO. 49

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA H: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFT DIST (NMI)
0.99	132.81	132.75	132.90	133.05	132.90	0.12	0.35
5.06	137.20	137.21	137.36	137.51	137.36	0.12	1.80
10.43	142.19	142.31	142.46	142.62	142.47	0.12	3.71
14.34	144.73	144.95	145.10	145.25	145.10	0.12	5.11
20.83	147.83	148.22	148.37	148.52	148.37	0.12	7.42
25.90	149.68	150.20	150.35	150.50	150.35	0.12	9.23
30.85	151.17	151.83	151.98	152.13	151.98	0.12	10.99
35.76	152.44	153.23	153.38	153.53	153.38	0.12	12.74
40.69	153.55	154.48	154.63	154.78	154.63	0.12	14.49
45.80	154.57	155.64	155.79	155.95	155.79	0.12	16.31
50.87	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.80	156.28	157.64	157.80	157.97	157.80	0.13	19.88
60.89	157.04	158.55	158.72	158.90	158.72	0.14	21.69
65.75	157.70	159.03	159.55	160.10	159.56	0.42	23.42
70.79	158.34	159.35	160.37	161.52	160.41	0.85	25.21
75.63	158.91	159.70	161.13	162.82	161.21	1.22	26.94
80.97	159.50	160.12	161.96	164.23	162.09	1.61	28.84
85.83	160.01	160.42	162.75	165.60	162.91	2.03	30.57
90.93	160.51	160.53	163.54	167.12	163.72	2.50	32.39
95.99	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.76	161.40	160.74	164.85	169.58	165.04	3.46	35.89
105.90	161.83	161.20	165.82	171.05	166.01	3.85	37.72
110.88	162.23	161.82	166.92	172.64	167.11	4.23	39.49
115.99	162.62	162.46	168.08	174.30	168.27	4.63	41.31
116.68	162.67	161.80	166.73	173.02	167.15	4.39	41.56
117.79	162.75	161.86	166.86	173.25	167.30	4.46	41.95
118.91	162.84	161.93	166.99	173.49	167.44	4.53	42.35
120.04	162.92	161.99	167.12	173.73	167.58	4.60	42.76
121.00	162.99	162.05	167.23	173.92	167.70	4.65	43.10
121.19	163.00	162.06	167.25	173.96	167.72	4.67	43.17
122.36	163.09	162.12	167.38	174.20	167.87	4.73	43.58
123.54	163.17	162.19	167.52	174.45	168.02	4.80	44.00
124.74	163.25	162.25	167.65	174.69	168.16	4.87	44.43
125.95	163.34	162.32	167.79	174.95	168.32	4.95	44.86
126.00	163.34	162.32	167.80	174.96	168.32	4.95	44.88
127.18	163.42	162.38	167.93	175.22	168.47	5.03	45.30
128.43	163.51	162.45	168.08	175.49	168.63	5.11	45.74
129.69	163.59	162.52	168.22	175.76	168.79	5.19	46.19
130.96	163.67	162.58	169.37	176.05	168.96	5.28	46.65
131.00	163.68	162.58	168.37	176.06	168.97	5.28	46.66
132.26	163.76	162.65	168.52	176.35	169.13	5.37	47.11
133.57	163.85	162.71	168.67	176.66	169.30	5.47	47.57
134.89	163.93	162.78	168.83	176.96	169.48	5.56	48.05
136.00	164.00	162.83	168.96	177.21	169.62	5.64	48.44
136.24	164.02	162.84	168.98	177.27	169.65	5.66	48.53
137.60	164.10	162.91	169.14	177.58	169.83	5.75	49.01
138.98	164.19	162.98	169.30	177.89	170.01	5.85	49.50
140.37	164.28	163.05	169.47	178.21	170.19	5.95	50.00
141.00	164.32	163.08	169.54	178.35	170.27	5.99	50.22
141.79	164.36	163.10	169.64	178.53	170.37	6.05	50.50
143.22	164.45	163.13	169.81	178.89	170.56	6.18	51.01
144.67	164.54	163.15	169.98	179.28	170.75	6.33	51.53

146.00	164.62	163.17	170.14	179.62	170.92	6.45	52.00
146.14	164.63	163.17	170.16	179.66	170.94	6.47	52.05
147.62	164.71	163.19	170.34	180.06	171.14	6.62	52.58
149.13	164.80	163.18	170.52	180.51	171.35	6.80	53.12
150.86	164.89	163.21	170.71	180.90	171.55	6.94	53.66
151.00	164.91	163.24	170.75	180.96	171.59	6.95	53.70
152.20	164.98	163.33	170.90	181.15	171.73	6.99	54.21
153.77	165.07	163.44	171.06	181.40	171.92	7.05	54.77
155.35	165.16	163.55	171.29	181.66	172.11	7.10	55.33
156.00	165.19	163.60	171.37	181.77	172.19	7.13	55.56
156.96	165.25	163.66	171.50	181.93	172.31	7.16	55.91
158.59	165.34	163.77	171.70	182.18	172.49	7.21	56.49
160.24	165.43	163.88	171.88	182.44	172.68	7.28	57.08
161.00	165.47	163.93	171.98	182.58	172.77	7.31	57.34
161.92	165.52	163.99	172.12	182.77	172.91	7.36	57.67
163.63	165.61	164.10	172.41	183.14	173.17	7.46	58.29
165.37	165.70	164.17	172.57	183.38	173.32	7.53	58.90
166.00	165.73	164.18	172.57	183.41	173.33	7.53	59.13
166.91	165.78	164.18	172.58	183.46	173.35	7.55	59.45
171.00	165.99	169.43	180.77	191.81	180.68	8.74	60.91
171.28	166.00	169.86	181.34	192.45	181.22	8.82	DIFR
174.00	166.14	176.99	188.69	199.89	188.54	8.94	DIFR
175.00	166.19	179.63	191.40	202.65	191.24	8.99	DIFR
176.00	166.24	182.26	194.11	205.41	193.94	9.04	DIFR
177.00	166.29	184.90	196.81	208.17	196.64	9.09	DIFR
178.00	166.34	187.55	199.52	210.93	199.34	9.13	DIFR
179.00	166.39	190.19	202.23	213.68	202.05	9.18	DIFR
180.00	166.44	192.84	204.94	216.43	204.75	9.22	DIFR

RUN NO. 50

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 30 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.75	132.90	133.05	132.90	0.12	0.35
5.06	137.20	137.21	137.36	137.51	137.36	0.12	1.80
10.43	142.19	142.31	142.46	142.62	142.47	0.12	3.71
14.34	144.73	144.95	145.10	145.25	145.10	0.12	5.11
20.83	147.83	148.22	148.37	148.52	148.37	0.12	7.42
25.90	149.68	150.20	150.35	150.50	150.35	0.12	9.23
30.85	151.17	151.83	151.98	152.13	151.98	0.12	10.99
35.76	152.44	153.23	153.38	153.53	153.38	0.12	12.74
40.69	153.55	154.48	154.63	154.78	154.63	0.12	14.49
45.60	154.57	155.64	155.79	155.95	155.79	0.12	16.31
50.87	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.80	156.26	157.64	157.80	157.97	157.80	0.13	19.88
60.89	157.04	158.55	158.72	158.90	158.72	0.14	21.69
65.75	157.70	159.03	159.55	160.10	159.56	0.42	23.42
70.79	158.34	159.35	160.37	161.52	160.41	0.95	25.21
75.83	158.91	159.70	161.13	162.82	161.21	1.22	26.84
80.97	159.50	160.12	161.96	164.23	162.09	1.61	28.84
85.83	160.01	160.42	162.75	165.60	162.91	2.03	30.57
90.93	160.51	160.53	163.54	167.12	163.72	2.58	32.39
95.99	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.76	161.40	160.74	164.85	169.58	165.04	3.46	35.89
105.90	161.83	161.20	165.82	171.05	166.01	3.85	37.72
110.88	162.23	161.82	166.92	172.64	167.11	4.23	39.49
115.99	162.62	162.46	168.08	174.30	168.27	4.63	41.31
116.68	162.67	161.80	166.73	173.02	167.15	4.39	41.56
117.79	162.75	161.86	166.86	173.25	167.30	4.46	41.95
118.91	162.84	161.93	166.99	173.49	167.44	4.53	42.35
120.04	162.92	161.99	167.12	173.73	167.58	4.60	42.76
121.00	162.99	162.05	167.23	173.92	167.70	4.65	43.10
121.19	163.00	162.06	167.25	173.96	167.72	4.67	43.17
122.36	163.09	162.12	167.38	174.20	167.87	4.73	43.58
123.54	163.17	162.19	167.52	174.45	168.02	4.80	44.00
124.74	163.25	162.25	167.65	174.69	168.16	4.87	44.43
125.95	163.34	162.32	167.79	174.95	168.32	4.95	44.86
126.00	163.34	162.32	167.80	174.96	168.32	4.95	44.88
127.18	163.42	162.38	167.93	175.22	168.47	5.03	45.30
128.43	163.51	162.45	168.08	175.49	168.63	5.11	45.74
129.89	163.59	162.52	168.22	175.76	168.79	5.19	46.19
130.96	163.67	162.58	168.37	176.05	168.96	5.28	46.65
131.00	163.68	162.58	168.37	176.06	168.97	5.28	46.66
132.26	163.76	162.65	168.52	176.35	169.13	5.37	47.11
133.57	163.85	162.71	168.67	176.66	169.30	5.47	47.57
134.89	163.93	162.78	168.83	176.96	169.48	5.56	48.05
136.00	164.00	162.83	168.96	177.21	169.62	5.64	48.44
136.24	164.02	162.84	168.98	177.27	169.65	5.66	48.53
137.09	164.07	162.89	169.08	177.46	169.76	5.72	48.83
137.60	164.10	162.99	169.56	177.99	170.14	5.88	49.01
138.98	164.19	163.24	170.85	179.43	171.15	6.33	49.50
140.37	164.28	163.93	172.15	180.09	172.31	6.63	50.00
141.00	164.32	164.44	172.74	181.54	172.90	6.68	50.22
144.42	164.52	167.17	175.96	185.02	176.04	6.97	DIFR
147.00	164.68	169.14	178.12	187.31	178.18	7.10	DIFR

148.00	164.74	169.86	178.96	186.19	179.00	7.16	DIFR
149.00	164.73	170.59	179.81	189.08	179.83	7.22	DIFR
150.00	164.85	171.33	180.65	189.97	180.65	7.28	DIFR
151.00	164.91	172.08	181.49	190.86	181.48	7.34	DIFR
152.00	164.97	172.83	182.34	191.77	182.31	7.40	DIFR
153.00	165.02	173.56	183.18	192.71	183.15	7.48	DIFR
154.00	165.08	174.31	184.03	193.64	184.00	7.55	DIFR
155.00	165.14	175.06	184.87	194.58	184.84	7.63	DIFR
156.00	165.19	175.81	185.72	195.51	185.68	7.70	DIFR
157.00	165.25	176.57	186.57	196.44	186.53	7.76	DIFR
158.00	165.30	177.28	187.41	197.38	187.36	7.85	DIFR
159.00	165.36	178.00	188.26	198.31	188.19	7.93	DIFR
160.00	165.41	178.73	189.11	199.26	189.04	8.02	DIFR
161.00	165.47	179.46	189.96	200.21	189.88	8.11	DIFR
162.00	165.52	180.21	190.81	201.17	190.73	8.19	DIFR
163.00	165.57	180.96	191.66	202.10	191.58	8.26	DIFR
164.00	165.63	181.72	192.51	203.03	192.43	8.33	DIFR
165.00	165.68	182.49	193.36	203.96	193.27	8.39	DIFR
166.00	165.73	183.26	194.21	204.88	194.12	8.45	DIFR

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE: ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 3.4 NMI

TERRAIN DELTA h: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

RUN NO. 51

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.52	118.68	118.85	118.69	0.13	0.29
5.67	121.72	120.73	121.75	122.91	121.80	0.85	1.64
9.37	124.52	122.73	124.57	126.90	124.72	1.63	2.71
15.27	128.02	125.42	128.09	131.92	128.45	2.55	4.42
18.75	129.64	126.75	129.72	134.18	130.19	2.93	5.43
24.04	131.67	128.47	131.78	136.95	132.36	3.34	6.96
30.74	133.72	130.30	133.86	139.62	134.55	3.68	8.90
35.94	135.04	131.54	135.20	141.27	135.95	3.84	10.40
38.95	135.72	131.14	131.29	131.44	131.29	0.12	11.27
39.86	135.92	134.19	134.34	134.50	134.34	0.12	11.53
40.80	136.12	147.00	147.15	147.30	147.15	0.12	11.81
41.00	136.16	144.22	144.37	144.52	144.37	0.12	11.87
41.78	136.32	134.56	134.71	134.86	134.71	0.12	12.09
42.81	136.53	131.85	132.00	132.15	132.00	0.12	12.39
43.89	136.74	134.94	135.09	135.25	135.09	0.12	12.70
45.03	136.96	148.61	148.76	148.91	148.76	0.12	13.03
46.00	137.14	136.66	136.81	136.96	136.81	0.12	13.31
46.21	137.19	135.34	135.49	135.65	135.49	0.12	13.37
47.46	137.41	132.63	132.78	132.94	132.78	0.12	13.74
48.78	137.65	135.77	135.92	136.07	135.92	0.12	14.12
50.16	137.89	150.41	150.56	150.71	150.56	0.12	14.52
50.99	138.03	140.04	140.19	140.35	140.19	0.12	14.76
51.62	138.13	136.22	136.37	136.52	136.37	0.12	14.94
52.15	138.39	133.51	133.66	133.82	133.66	0.12	15.38
54.78	138.65	136.69	136.84	137.00	136.84	0.12	15.85
56.00	138.83	145.89	146.04	146.20	146.04	0.12	16.21
56.50	138.91	152.45	152.60	152.76	152.60	0.12	16.35
58.33	139.18	137.19	137.35	137.50	137.35	0.12	16.68
60.26	139.47	134.50	134.65	134.81	134.65	0.12	17.44
60.99	139.57	134.94	135.10	135.25	135.10	0.12	17.65
62.32	139.75	137.73	137.88	138.04	137.88	0.12	18.04
64.50	140.05	154.79	154.94	155.10	154.95	0.12	18.67
65.98	140.25	141.41	141.56	141.72	141.56	0.12	19.10
66.83	140.36	138.30	138.45	138.61	138.46	0.12	19.34
69.32	140.67	135.63	135.78	135.95	135.79	0.12	20.06
70.98	140.88	136.92	137.08	137.24	137.08	0.13	20.54
71.98	141.00	138.91	139.07	139.23	139.07	0.13	20.83
74.83	141.33	157.52	157.68	157.85	157.68	0.13	21.66
75.98	141.47	146.55	146.71	146.88	146.71	0.13	21.99
77.88	141.68	139.56	139.72	139.90	139.73	0.13	22.54
80.99	142.02	136.91	137.08	137.26	137.08	0.14	23.44
81.16	142.04	136.92	137.09	137.27	137.09	0.14	23.49
84.68	142.40	140.25	140.43	140.62	140.44	0.15	24.51
85.97	142.53	143.49	143.68	143.88	143.68	0.15	24.88
88.48	142.78	160.76	160.96	161.16	160.96	0.16	25.61
90.96	143.02	144.44	144.66	144.88	144.66	0.17	26.33
92.58	143.18	140.97	141.20	141.43	141.20	0.18	26.79
95.99	143.49	138.40	138.66	138.92	138.66	0.20	27.78
97.01	143.58	138.34	138.61	138.89	138.62	0.21	28.08
100.97	143.93	140.64	140.97	141.31	140.97	0.26	29.22
101.79	144.00	141.68	142.04	142.39	142.04	0.28	29.46
105.97	144.34	155.00	155.48	155.95	155.47	0.37	30.67
106.98	144.43	164.52	165.04	165.55	165.03	0.40	30.96

111.00	144.75	144.45	145.21	145.95	145.21	0.59	32.12
112.60	144.87	142.08	143.00	143.87	142.98	0.70	32.59
115.94	145.12	139.69	140.84	142.11	140.88	0.95	33.55
118.70	145.33	139.91	140.56	142.25	140.89	0.95	34.35
121.00	145.49	140.11	141.11	143.15	141.47	1.21	35.02
125.31	145.80	141.28	144.11	146.69	144.03	2.12	36.27
125.99	145.84	141.96	144.88	147.53	144.80	2.18	36.46
130.98	146.18	153.75	157.23	160.30	157.10	2.56	37.91
132.49	146.28	166.84	170.46	173.65	170.32	2.66	38.35
135.92	146.50	147.07	151.00	154.46	150.85	2.89	39.34
140.29	146.78	141.27	145.10	148.88	145.08	2.98	40.60
141.00	146.82	141.29	144.58	148.42	144.75	2.79	40.81
145.94	147.12	141.28	142.71	146.92	143.58	2.30	42.24
148.74	147.28	141.21	142.59	147.01	143.54	2.38	43.05
150.99	147.41	141.28	142.89	147.48	143.82	2.52	43.70
155.96	147.70	141.68	144.81	149.80	145.39	3.20	45.14
157.90	147.80	141.84	146.11	151.27	146.39	3.69	45.70
160.92	147.97	142.64	149.05	154.47	148.74	4.63	46.57
165.94	148.23	153.44	160.33	166.17	160.00	4.98	48.02
167.81	148.33	170.26	177.31	183.29	176.98	5.10	48.57
170.92	148.49	149.11	156.47	162.69	156.11	5.31	49.47
175.92	148.74	142.52	149.06	155.63	149.07	5.12	50.91
178.52	148.87	142.41	147.26	154.06	147.87	4.58	51.67
181.00	148.99	142.25	146.13	153.15	147.11	4.32	52.38
186.00	149.22	141.89	145.00	152.41	146.34	4.23	53.83
190.08	149.41	141.83	144.92	152.64	146.37	4.36	55.01
191.00	149.45	141.87	144.99	152.77	146.45	4.40	55.28
196.00	149.68	142.36	145.94	154.06	147.36	4.70	56.73
198.33	149.78	142.69	146.72	155.04	148.06	4.93	57.40
201.00	149.90	143.10	147.90	156.46	149.07	5.29	58.17
202.65	149.97	143.36	148.82	157.51	149.83	5.58	58.65
205.33	150.08	143.80	150.68	159.58	151.31	6.18	59.43
206.00	150.11	143.91	151.23	160.18	151.74	6.37	59.62
207.17	150.16	144.12	152.28	161.32	152.56	6.72	59.96
208.52	150.21	144.38	153.65	162.79	153.61	7.19	60.35
209.56	150.26	144.60	154.82	164.03	154.50	7.60	60.65
210.39	150.29	145.00	155.80	165.08	155.33	7.85	60.89
211.00	150.32	145.68	156.55	165.86	156.06	7.89	61.07
211.06	150.32	145.76	156.63	165.95	156.15	7.90	61.09
213.54	150.42	147.99	159.07	168.57	158.58	8.05	61.80
213.63	150.43	148.16	159.25	168.75	158.75	8.05	61.84
215.94	150.52	150.86	162.20	171.94	161.70	8.24	62.50
220.84	150.71	156.98	168.58	178.55	168.07	8.43	DIFR
223.00	150.80	161.74	173.45	183.50	172.93	8.51	DIFR
224.00	150.84	163.94	175.70	185.78	175.18	8.54	DIFR
225.00	150.87	166.15	177.95	188.07	177.42	8.57	DIFR
226.00	150.91	168.33	180.20	190.35	179.66	8.61	DIFR
227.00	150.95	170.51	182.45	192.64	181.90	8.65	DIFR
228.00	150.99	172.69	184.70	194.92	184.14	8.69	DIFR
2.29E+02	1.51E+02	1.75E+02	1.87E+02	1.97E+02	1.86E+02	8.73E+00	DIFR

RUN NO. 52

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 260 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.53	118.68	118.84	118.68	0.12	0.29
5.67	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.84	129.57	129.72	129.88	129.73	0.12	5.43
24.04	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.90
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
38.95	135.72	135.75	135.90	136.06	135.91	0.12	11.27
39.86	135.92	135.95	136.10	136.26	136.11	0.12	11.53
40.80	136.12	136.16	136.31	136.46	136.31	0.12	11.81
41.00	136.16	136.20	136.35	136.51	136.35	0.12	11.87
41.78	136.32	136.37	136.52	136.67	136.52	0.12	12.09
42.81	136.53	136.58	136.73	136.88	136.73	0.12	12.39
43.89	136.74	136.80	136.95	137.10	136.95	0.12	12.70
45.03	136.96	137.02	137.17	137.33	137.17	0.12	13.03
46.00	137.14	137.21	137.36	137.51	137.36	0.12	13.31
46.21	137.19	137.25	137.40	137.56	137.40	0.12	13.37
47.46	137.41	137.49	137.64	137.79	137.64	0.12	13.74
48.78	137.65	137.73	137.88	138.03	137.88	0.12	14.12
50.16	137.89	137.97	138.12	138.28	138.13	0.12	14.52
50.99	138.03	138.12	138.27	138.43	138.27	0.12	14.76
51.62	138.13	138.23	138.38	138.53	138.38	0.12	14.94
53.15	138.39	138.49	138.64	138.79	138.64	0.12	15.38
54.78	138.65	138.76	138.91	139.06	138.91	0.12	15.85
56.00	138.83	138.95	139.10	139.26	139.10	0.12	16.21
56.50	138.91	139.03	139.18	139.34	139.18	0.12	16.35
58.33	139.18	139.32	139.47	139.62	139.47	0.12	16.88
60.26	139.47	139.61	139.76	139.92	139.76	0.12	17.44
60.99	139.57	139.71	139.87	140.02	139.87	0.12	17.65
62.32	139.75	139.91	140.05	140.22	140.06	0.12	18.04
64.50	140.05	140.22	140.37	140.53	140.37	0.12	18.67
65.98	140.25	140.42	140.57	140.73	140.58	0.12	19.10
66.83	140.36	140.54	140.69	140.85	140.69	0.12	19.34
69.32	140.67	140.86	141.02	141.18	141.02	0.12	20.06
70.98	140.88	141.08	141.23	141.40	141.24	0.13	20.54
71.98	141.00	141.20	141.36	141.53	141.36	0.13	20.83
74.83	141.33	141.55	141.71	141.88	141.72	0.13	21.66
75.98	141.47	141.69	141.85	142.02	141.86	0.13	21.99
77.88	141.68	141.91	142.08	142.25	142.08	0.13	22.54
80.99	142.02	142.26	142.44	142.62	142.44	0.14	23.44
81.16	142.04	142.28	142.46	142.64	142.46	0.14	23.49
84.68	142.40	142.65	142.85	143.05	142.85	0.15	24.51
85.97	142.53	142.79	142.99	143.19	142.99	0.16	24.88
88.48	142.78	143.04	143.26	143.48	143.26	0.17	25.61
90.96	143.02	143.28	143.51	143.76	143.52	0.18	26.33
92.58	143.18	143.43	143.68	143.93	143.68	0.20	26.79
95.99	143.49	143.73	144.02	144.31	144.02	0.23	27.78
97.01	143.58	143.82	144.12	144.43	144.12	0.24	28.08
100.97	143.93	144.13	144.50	144.88	144.50	0.29	29.22
101.79	144.00	144.19	144.58	144.98	144.58	0.31	29.46
105.97	144.34	144.47	144.96	145.50	144.98	0.40	30.67
106.98	144.43	144.53	145.08	145.63	145.08	0.43	30.96

111 00	144 75	144 80	145 46	146 24	145 50	0 56	32 12
112 60	144 87	144 94	145 61	146 52	145 68	0 62	32 59
115 94	145 12	145 23	145 92	147 22	146 11	0 79	37 55
118 70	145 33	145 47	146 18	147 90	146 49	0 98	34 35
121 00	145 49	145 65	146 39	148 46	146 81	1 14	35 02
125 31	145 80	145 96	146 79	149 40	147 34	1 41	36 27
125 99	145 84	146 01	146 85	149 53	147 42	1 44	36 46
130 98	146 18	146 31	147 26	150 39	147 95	1 7	37 91
132 49	146 28	146 39	147 40	150 64	148 10	1 4	38 35
135 92	146 50	146 54	147 64	151 14	148 39	1 38	39 34
140 29	146 78	146 54	147 84	151 68	148 66	2 07	40 60
141 00	146 82	146 64	147 86	151 76	148 70	2 10	40 81
145 94	147 12	146 58	148 00	152 31	148 90	2 34	42 24
148 74	147 28	146 53	148 11	152 64	149 03	2 48	43 05
150 99	147 41	146 51	148 23	152 94	149 16	2 61	43 70
155 96	147 70	146 53	148 66	153 81	149 60	2 93	45 14
157 90	147 80	146 56	148 91	154 25	149 84	3 09	45 70
160 92	147 97	146 62	149 36	155 00	150 27	3 34	46 57
165 94	148 23	146 72	150 15	156 28	150 99	3 79	48 02
167 81	148 33	146 72	150 39	156 70	151 21	3 95	48 57
170 92	148 49	146 67	150 61	157 21	151 44	4 16	49 47
175 92	148 74	146 41	150 36	157 44	151 34	4 37	50 91
178 52	148 87	146 17	149 99	157 36	151 10	4 45	51 67
181 00	148 99	145 87	149 57	157 21	150 80	4 53	52 38
186 00	149 22	145 22	148 81	156 95	150 23	4 70	53 83
190 08	149 41	144 81	148 48	157 00	149 99	4 89	55 01
191 00	149 45	144 75	148 46	157 06	149 98	4 94	55 28
196 00	149 68	144 67	148 75	157 76	150 29	5 24	56 73
198 33	149 78	144 75	149 15	158 39	150 66	5 45	57 40
201 00	149 90	144 90	149 89	159 34	151 28	5 74	58 17
202 85	149 97	145 00	150 51	160 06	151 77	5 98	58 65
205 33	150 08	145 18	151 83	161 51	152 78	6 42	59 43
206 00	150 11	145 24	152 23	161 91	153 07	6 54	59 62
207 17	150 16	145 35	153 00	162 63	153 62	6 77	59 96
208 52	150 21	145 47	154 00	163 60	154 34	7 09	60 35
209 56	150 26	145 58	154 84	164 43	154 94	7 36	60 65
210 39	150 29	145 67	155 55	165 12	155 45	7 60	60 89
211 00	150 32	145 74	156 06	165 64	155 83	7 77	61 07
211 06	150 32	145 75	156 12	165 70	155 87	7 79	61 09
213 05	150 40	146 49	157 57	167 17	157 11	8 09	61 66
213 68	150 43	147 38	158 50	168 12	158 03	8 11	61 84
215 94	150 52	150 54	161 88	171 67	161 40	8 26	62 50
220 25	150 69	156 74	168 33	178 31	167 83	8 43	DIFR
223 00	150 80	162 87	174 59	184 68	174 08	8 53	DIFR
224 00	150 84	165 10	176 87	187 00	176 36	8 56	DIFR
225 00	150 87	167 34	179 15	189 31	178 63	8 59	DIFR
226 00	150 91	169 55	181 43	191 62	180 90	8 63	DIFR
227 00	150 95	171 76	183 70	193 93	183 17	8 67	DIFR
228 00	150 99	173 97	185 98	196 24	185 44	8 71	DIFR

RUN NO. 53

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC
 FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE ISOTROPIC
 HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI
 TERRAIN DELTA: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI
 CLIMATE: DESERT
 SURFACE REFLECTION LOBING: DETERMINES MEDIAN

FREQUENCY: 2 GHz
 POLARIZATION: CIRCULAR
 TERRAIN ELEVATION AT SITE: 0 FT
 OBSTACLE HT: SPECIFIED AT 25 FT ABOVE MSL
 MINIMUM MONTHLY MEAN: 280 N-UNITS
 SURFACE TYPE: POOR GROUND
 TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFP DIST (NMI)
1.00	112.66	118.53	118.68	118.84	118.68	0.12	0.29
5.67	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.64	129.57	129.72	129.88	129.73	0.12	5.43
24.04	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.90
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
38.95	135.72	135.75	135.90	136.06	135.91	0.12	11.27
39.86	135.92	135.95	136.10	136.26	136.11	0.12	11.53
40.80	136.12	136.16	136.31	136.46	136.31	0.12	11.81
41.00	136.16	136.20	136.35	136.51	136.35	0.12	11.87
41.78	136.32	136.37	136.52	136.67	136.52	0.12	12.09
42.81	136.53	136.58	136.73	136.88	136.73	0.12	12.39
43.89	136.74	136.80	136.95	137.10	136.95	0.12	12.70
45.03	136.96	137.02	137.17	137.33	137.17	0.12	13.03
46.00	137.14	137.21	137.36	137.51	137.36	0.12	13.31
46.21	137.19	137.25	137.40	137.56	137.40	0.12	13.37
47.46	137.41	137.49	137.64	137.79	137.64	0.12	13.74
48.78	137.65	137.73	137.88	138.03	137.88	0.12	14.12
50.16	137.89	137.97	138.12	138.28	138.13	0.12	14.52
50.99	138.03	138.12	138.27	138.43	138.27	0.12	14.76
51.62	138.13	138.23	138.38	138.53	138.38	0.12	14.94
53.15	138.39	138.49	138.64	138.79	138.64	0.12	15.38
54.78	138.65	138.76	138.91	139.06	138.91	0.12	15.85
56.00	138.83	138.95	139.10	139.26	139.10	0.12	16.21
56.50	138.81	139.03	139.18	139.34	139.18	0.12	16.35
58.33	139.18	139.32	139.47	139.62	139.47	0.12	16.88
60.26	139.47	139.61	139.76	139.92	139.76	0.12	17.44
60.99	139.57	139.71	139.87	140.02	139.87	0.12	17.65
62.32	139.75	139.91	140.06	140.22	140.06	0.12	18.04
64.50	140.05	140.22	140.37	140.53	140.37	0.12	18.67
65.98	140.25	140.42	140.57	140.73	140.58	0.12	19.10
66.83	140.36	140.54	140.69	140.85	140.69	0.12	19.34
69.32	140.67	140.86	141.02	141.18	141.02	0.12	20.06
70.98	140.88	141.08	141.23	141.40	141.24	0.13	20.54
71.98	141.00	141.20	141.36	141.53	141.36	0.13	20.83
74.83	141.33	141.55	141.71	141.88	141.72	0.13	21.66
75.98	141.47	141.69	141.95	142.02	141.86	0.13	21.99
77.88	141.68	141.91	142.08	142.25	142.08	0.13	22.54
80.99	142.02	142.26	142.44	142.62	142.44	0.14	23.44
81.16	142.04	142.28	142.46	142.64	142.46	0.14	23.49
84.68	142.40	142.66	142.85	143.05	142.85	0.15	24.51
85.97	142.53	142.79	142.99	143.19	142.99	0.16	24.88
88.48	142.78	143.04	143.26	143.48	143.26	0.17	25.61
90.96	143.02	143.28	143.51	143.76	143.52	0.18	26.33
92.58	143.18	143.43	143.68	143.93	143.68	0.20	26.79
95.99	143.49	143.73	144.02	144.31	144.02	0.23	27.78
97.01	143.58	143.82	144.12	144.43	144.12	0.24	28.08
100.97	143.93	144.13	144.50	144.88	144.50	0.29	29.22
101.79	144.00	144.19	144.58	144.98	144.58	0.31	29.46
105.97	144.34	144.47	144.98	145.50	144.98	0.40	30.67
106.98	144.43	144.53	145.08	145.63	145.08	0.43	30.96

111.00	144.75	144.80	145.46	146.24	145.50	0.56	32.12
112.60	144.87	144.94	145.61	146.52	145.68	0.62	32.59
115.94	145.12	145.23	145.92	147.22	146.11	0.79	33.55
118.70	145.33	145.47	146.18	147.90	146.49	0.98	34.35
121.00	145.49	145.65	146.39	148.46	146.81	1.14	35.02
125.31	145.80	145.96	146.79	149.40	147.34	1.41	36.27
125.99	145.84	146.01	146.85	149.53	147.42	1.44	36.46
130.98	146.10	146.31	147.28	150.39	147.95	1.67	37.91
132.49	146.28	146.39	147.40	150.64	148.10	1.74	38.35
135.92	146.50	146.54	147.64	151.14	148.39	1.89	39.34
140.29	146.78	146.64	147.84	151.66	148.66	2.07	40.60
141.00	146.82	146.64	147.86	151.76	148.70	2.10	40.81
145.94	147.12	146.58	148.00	152.31	148.90	2.34	42.24
148.74	147.28	146.53	148.11	152.64	149.03	2.48	43.06
150.99	147.41	146.51	148.23	152.94	149.16	2.61	43.70
155.96	147.70	146.53	148.66	153.81	149.80	2.93	45.14
157.90	147.80	146.56	148.91	154.25	149.84	3.09	45.70
160.92	147.97	146.62	149.36	155.00	150.27	3.34	46.57
165.94	148.23	146.72	150.15	156.28	150.99	3.79	48.02
167.81	148.33	146.72	150.39	156.70	151.21	3.95	48.57
170.92	148.49	146.67	150.61	157.21	151.44	4.16	49.47
175.92	148.74	146.41	150.36	157.44	151.34	4.37	50.91
178.52	148.87	146.17	149.99	157.36	151.10	4.45	51.67
181.00	148.99	145.87	149.57	157.21	150.80	4.53	52.38
186.00	149.22	145.22	148.81	156.95	150.23	4.70	53.83
190.08	149.41	144.81	148.48	157.00	149.99	4.89	55.01
191.00	149.45	144.75	148.46	157.06	149.98	4.94	55.28
196.00	149.68	144.67	148.75	157.76	150.29	5.24	56.73
198.33	149.78	144.75	149.15	158.39	150.66	5.45	57.40
201.00	149.90	144.90	149.89	159.34	151.28	5.74	58.17
202.65	149.97	145.00	150.51	160.05	151.77	5.96	58.85
205.33	150.08	145.18	151.83	161.51	152.78	6.42	59.43
206.00	150.11	145.24	152.23	161.91	153.07	6.54	59.82
207.17	150.16	145.35	153.00	162.63	153.62	6.77	59.96
207.17	150.16	145.35	153.00	162.63	153.62	6.77	59.96
208.52	150.21	147.80	158.54	168.14	158.18	7.95	60.35
209.56	150.26	151.99	162.81	172.39	162.43	7.97	60.65
209.57	150.28	151.90	162.83	172.49	162.43	8.05	DIFR
212.00	150.38	157.31	168.42	178.15	167.99	8.15	DIFR
213.00	150.40	159.53	170.71	180.47	170.27	8.19	DIFR
214.00	150.44	181.76	173.01	182.80	172.56	8.22	DIFR
215.00	150.48	184.00	175.31	185.14	174.85	8.27	DIFR
216.00	150.52	186.23	177.60	187.49	177.14	8.31	DIFR
217.00	150.56	188.47	179.90	189.83	179.43	8.35	DIFR

RUN NO. 54

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA E: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HGT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.53	118.68	118.84	118.68	0.12	0.29
5.67	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.84	129.57	129.72	129.88	129.73	0.12	5.43
24.04	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.90
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
38.95	135.72	135.75	135.90	136.06	135.91	0.12	11.27
39.86	135.92	135.95	135.10	136.26	136.11	0.12	11.53
40.80	136.12	136.16	136.31	136.46	136.31	0.12	11.81
41.00	136.16	136.20	136.35	136.51	136.35	0.12	11.87
41.78	136.32	136.37	136.52	136.67	136.52	0.12	12.09
42.81	136.53	136.58	136.73	136.88	136.73	0.12	12.39
43.89	136.74	136.80	136.95	137.10	136.95	0.12	12.70
45.03	136.96	137.02	137.17	137.33	137.17	0.12	13.03
46.00	137.14	137.21	137.36	137.51	137.36	0.12	13.31
46.21	137.19	137.25	137.40	137.56	137.40	0.12	13.37
47.48	137.41	137.49	137.64	137.79	137.64	0.12	13.74
48.70	137.65	137.73	137.88	138.03	137.88	0.12	14.12
50.16	137.89	137.97	138.12	138.28	138.13	0.12	14.52
50.99	138.03	138.12	138.27	138.43	138.27	0.12	14.76
51.62	138.13	138.23	138.38	138.53	138.38	0.12	14.94
53.15	138.39	138.49	138.64	138.79	138.64	0.12	15.38
54.78	138.65	138.76	138.91	139.06	138.91	0.12	15.85
56.00	138.83	138.95	139.10	139.26	139.10	0.12	16.21
56.50	138.91	139.03	139.18	139.34	139.18	0.12	16.35
58.33	139.18	139.32	139.47	139.62	139.47	0.12	16.88
60.26	139.47	139.61	139.76	139.92	139.76	0.12	17.44
60.99	139.57	139.71	139.87	140.02	139.87	0.12	17.65
62.32	139.75	139.91	140.06	140.22	140.06	0.12	18.04
64.50	140.05	140.22	140.37	140.53	140.37	0.12	18.67
65.98	140.25	140.42	140.57	140.73	140.58	0.12	19.10
68.83	140.36	140.54	140.69	140.85	140.69	0.12	19.34
69.32	140.67	140.85	141.02	141.16	141.02	0.12	20.06
70.98	140.88	141.08	141.23	141.40	141.24	0.13	20.54
71.98	141.00	141.20	141.36	141.53	141.36	0.13	20.83
74.83	141.33	141.55	141.71	141.88	141.72	0.13	21.66
75.98	141.47	141.69	141.85	142.02	141.86	0.13	21.99
77.88	141.68	141.91	142.08	142.25	142.08	0.13	22.54
80.99	142.02	142.26	142.44	142.62	142.44	0.14	23.44
81.16	142.04	142.28	142.46	142.64	142.46	0.14	23.49
84.68	142.40	142.66	142.85	143.05	142.85	0.15	24.51
85.97	142.53	142.79	142.99	143.19	142.99	0.16	24.88
88.48	142.78	143.04	143.26	143.48	143.26	0.17	25.61
90.96	143.02	143.28	143.51	143.76	143.52	0.18	26.33
92.58	143.18	143.43	143.68	143.93	143.68	0.20	26.79
95.99	143.49	143.73	144.02	144.31	144.02	0.23	27.78
97.01	143.58	143.82	144.12	144.43	144.12	0.24	28.08
100.97	143.93	144.13	144.50	144.88	144.50	0.29	29.22
101.79	144.00	144.19	144.58	144.98	144.58	0.31	29.46
105.97	144.34	144.47	144.98	145.50	144.98	0.40	30.67
106.98	144.43	144.53	145.08	145.63	145.68	0.43	30.96

111.00	144.76	144.80	145.46	146.24	145.50	0.56	32.12
112.80	144.87	144.94	145.61	146.52	145.68	0.62	32.59
115.94	145.12	145.23	145.92	147.22	146.11	0.79	33.55
116.70	145.33	145.47	146.18	147.90	146.49	0.98	34.35
121.00	145.49	145.65	146.39	148.46	146.81	1.14	35.02
125.31	145.80	145.98	146.79	149.40	147.34	1.41	36.27
125.99	145.84	146.01	146.85	149.53	147.42	1.44	36.46
130.98	146.16	146.31	147.28	150.39	147.95	1.67	37.91
132.49	146.28	146.39	147.40	150.84	148.10	1.74	38.35
135.92	146.50	146.54	147.64	151.14	148.39	1.88	39.34
140.29	146.78	146.84	147.84	151.68	148.68	2.07	40.60
141.00	146.82	146.84	147.88	151.78	148.70	2.10	40.81
145.94	147.12	146.58	148.00	152.31	148.90	2.34	42.24
148.74	147.28	146.53	148.11	152.64	149.03	2.48	43.05
150.99	147.41	146.51	148.23	152.94	149.16	2.61	43.70
155.96	147.70	146.53	148.66	153.81	149.80	2.93	45.14
157.90	147.80	146.56	148.91	154.25	149.84	3.09	45.70
160.92	147.97	146.62	149.38	155.00	150.27	3.34	46.57
163.99	148.13	146.69	149.45	155.79	150.72	3.61	47.46
165.94	148.23	146.87	150.84	156.97	151.51	3.98	48.02
167	148.33	146.98	151.82	158.13	152.28	4.37	48.57
	148.49	147.09	153.48	160.06	153.54	5.07	49.47
	148.74	148.09	156.10	163.18	155.81	5.90	50.81
	148.87	149.23	157.47	164.83	157.19	6.10	51.67
171.70	148.99	150.33	158.77	166.11	158.52	6.29	52.38
172.16	149.04	150.61	159.38	167.22	159.09	6.49	DIFR
185.00	149.18	152.65	161.67	169.82	161.34	6.64	DIFR
186.00	149.22	153.37	162.47	170.47	162.13	6.68	DIFR
187.00	149.27	154.10	163.28	171.31	162.92	6.73	DIFR
188.00	149.32	154.83	164.08	172.16	163.72	6.77	DIFR
189.00	149.36	155.57	164.89	173.00	164.51	6.82	DIFR
190.00	149.41	156.31	165.69	173.84	165.31	6.86	DIFR
191.00	149.45	157.05	166.50	174.68	166.10	6.89	DIFR
192.00	149.50	157.79	167.30	175.52	166.90	6.93	DIFR
193.00	149.54	158.54	168.11	176.36	167.70	6.97	DIFR
194.00	149.59	159.28	168.91	177.20	168.49	7.01	DIFR
195.00	149.63	159.97	169.72	178.04	169.27	7.06	DIFR
196.00	149.68	160.69	170.52	178.88	170.06	7.11	DIFR
197.00	149.72	161.40	171.33	179.74	170.87	7.19	DIFR
198.00	149.77	162.11	172.13	180.70	171.68	7.27	DIFR

RUN NO. 55

JOHNSON & GIERHART
 AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL
 FACILITY ANTENNA HEIGHT: 3 FT ABOVE MSL
 HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI
 TERRAIN DELTA h: 0 FT
 CLIMATE: DESERT
 SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC
 TYPE: ISOTROPIC
 EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 2 GHz
 POLARIZATION: CIRCULAR
 TERRAIN ELEVATION AT SITE: 0 FT
 OBST HT: DETERMINED AT 0 FT ABOVE MSL
 MINIMUM MONTHLY MEAN: 280 N UNITS
 SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	110.66	118.52	118.69	118.86	118.69	0.13	0.29
3.16	119.79	119.23	119.38	119.53	119.38	0.12	0.93
3.44	119.99	119.85	120.00	120.16	120.00	0.12	1.01
3.72	120.20	120.70	120.85	121.00	120.85	0.12	1.09
4.00	120.41	120.26	120.41	120.56	120.41	0.12	1.18
4.28	120.62	119.77	119.92	120.08	119.92	0.12	1.26
4.57	120.85	120.69	120.84	120.99	120.84	0.12	1.34
4.86	121.08	121.95	122.10	122.25	122.10	0.12	1.43
5.15	121.31	121.13	121.28	121.44	121.28	0.12	1.51
5.46	121.55	120.38	120.53	120.68	120.53	0.12	1.60
5.77	121.80	121.60	121.75	121.91	121.75	0.12	1.69
6.00	121.99	123.10	123.25	123.41	123.25	0.12	1.78
6.09	122.06	123.38	123.63	123.69	123.53	0.12	1.79
6.43	122.33	122.10	122.25	122.40	122.25	0.12	1.89
6.78	122.60	121.07	121.22	121.38	121.22	0.12	1.99
7.14	122.89	122.62	122.77	122.92	122.77	0.12	2.10
7.53	123.18	125.05	125.20	125.35	125.20	0.12	2.21
7.94	123.49	123.18	123.33	123.48	123.33	0.12	2.33
8.37	123.81	121.88	122.03	122.19	122.03	0.12	2.46
8.82	124.14	123.77	123.92	124.08	123.92	0.12	2.59
9.31	124.48	127.03	127.18	127.34	127.18	0.12	2.73
9.84	124.84	124.41	124.56	124.72	124.56	0.12	2.89
10.40	125.22	122.86	123.01	123.16	123.01	0.12	3.05
11.00	125.60	125.03	125.18	125.33	125.18	0.12	3.23
11.01	125.61	125.10	125.25	125.41	125.25	0.12	3.23
11.67	126.02	129.46	129.60	129.76	129.60	0.12	3.43
12.40	126.46	126.86	126.01	126.16	126.01	0.12	3.64
13.20	126.92	124.08	124.23	124.38	124.23	0.12	3.88
14.08	127.40	126.69	126.84	127.00	126.84	0.12	4.13
15.06	127.92	132.52	132.67	132.82	132.67	0.12	4.42
15.99	128.38	128.38	128.63	128.68	128.53	0.12	4.70
16.17	128.47	127.62	127.77	127.93	127.77	0.12	4.76
17.42	129.05	125.67	125.82	125.97	125.82	0.12	5.12
18.85	129.68	128.68	128.83	128.99	128.83	0.12	5.53
20.50	130.36	136.62	136.77	136.92	136.77	0.12	6.02
20.97	130.54	135.55	135.69	135.85	135.70	0.12	6.16
22.43	131.09	129.82	130.07	130.22	130.07	0.12	6.59
24.73	131.90	127.91	128.06	128.22	128.07	0.12	7.26
25.93	132.29	128.77	128.92	129.08	128.93	0.12	7.62
27.49	132.78	131.40	131.55	131.70	131.55	0.12	8.07
30.90	133.76	142.63	142.78	142.93	142.78	0.12	9.08
30.99	133.79	142.64	142.79	142.95	142.80	0.12	9.10
35.21	134.86	133.24	133.39	133.55	133.40	0.12	10.34
35.99	135.05	132.52	132.60	132.82	132.67	0.12	10.57
40.80	136.12	131.48	131.63	131.79	131.63	0.12	11.98
41.00	136.16	131.52	131.67	131.83	131.67	0.12	12.04
45.84	137.12	133.73	133.88	134.04	133.88	0.12	13.46
48.33	137.57	135.70	135.86	136.00	135.85	0.12	14.19
50.77	137.99	130.22	138.37	138.53	138.38	0.12	14.91
55.09	138.83	146.93	147.08	147.23	147.08	0.12	16.44
68.95	139.28	153.20	153.35	153.51	153.35	0.12	17.31
69.81	139.54	150.73	150.88	151.04	150.88	0.12	17.86

65.83	140.23	143.51	143.66	143.82	143.66	0.12	19.33
70.84	140.86	140.47	140.63	140.79	140.63	0.13	20.80
74.82	141.33	139.23	139.39	139.56	139.39	0.13	21.97
75.93	141.46	138.99	139.15	139.32	139.16	0.13	22.30
80.77	141.99	138.32	138.49	138.67	138.50	0.14	23.72
85.87	142.52	138.06	138.25	138.45	138.25	0.15	25.22
90.69	143.00	138.09	138.30	138.52	138.30	0.17	26.63
95.99	143.49	138.30	138.57	138.84	138.57	0.21	28.19
100.14	143.86	138.57	138.89	139.22	138.89	0.26	29.41
100.94	143.92	138.62	138.97	139.31	138.97	0.27	29.64
105.80	144.33	138.98	139.47	139.94	139.46	0.37	31.07
110.97	144.74	139.31	140.10	140.85	140.09	0.60	32.59
115.82	145.12	139.67	140.79	142.08	140.84	0.94	34.01
121.00	145.49	140.10	141.60	143.69	141.78	1.41	35.53
126.00	145.85	140.45	142.38	145.10	142.63	1.82	37.00
128.05	145.85	140.46	142.39	145.11	142.64	1.83	37.02
130.87	146.17	140.75	143.16	146.32	143.39	2.18	38.43
135.78	146.49	141.03	143.97	147.52	144.16	2.54	39.87
140.95	146.82	141.27	144.87	148.81	144.97	2.95	41.39
142.99	146.94	141.35	145.24	149.33	145.30	3.12	41.99
145.92	147.12	141.46	145.78	150.09	145.78	3.37	42.85
150.98	147.41	141.65	146.75	151.44	146.62	3.83	44.34
154.71	147.63	141.79	147.51	152.52	147.29	4.19	45.43
155.97	147.70	141.84	147.78	152.89	147.52	4.32	45.81
160.99	147.97	142.26	148.87	154.42	148.54	4.76	47.28
163.23	148.09	142.57	149.39	155.12	149.05	4.91	47.94
166.00	148.24	142.99	150.05	155.99	149.70	5.08	48.75
169.70	148.43	143.52	150.98	157.20	150.59	5.35	49.84
171.00	148.49	143.73	151.32	157.64	150.92	5.44	50.22
174.75	148.68	144.41	152.34	158.96	151.93	5.69	51.32
176.00	148.74	144.67	152.70	159.43	152.29	5.77	51.69
178.81	148.88	145.27	153.54	160.51	153.13	5.96	52.51
181.00	148.99	145.72	154.23	161.38	153.81	6.13	53.15
182.13	149.04	145.97	154.61	161.84	154.17	6.21	53.49
186.00	149.22	146.98	155.96	163.48	155.50	6.46	54.62
191.00	149.45	148.57	157.94	165.82	157.48	6.75	56.09
194.72	149.62	149.91	159.65	167.82	159.16	7.01	57.19
196.00	149.68	150.44	160.30	168.58	159.81	7.09	57.56
201.00	149.90	153.01	163.26	171.95	162.77	7.41	59.03
205.91	150.11	156.54	167.17	176.23	166.68	7.70	60.47
206.00	150.11	156.61	167.25	176.32	166.76	7.71	60.50
211.00	150.32	160.77	171.84	181.26	171.33	8.01	61.97
215.46	150.50	164.46	175.95	185.80	175.44	8.35	63.27
217.53	150.56	166.26	177.85	187.80	177.34	8.42	DIFR
220.00	150.68	171.69	183.41	193.45	182.89	8.51	DIFR
221.00	150.72	173.90	185.66	195.74	185.13	8.54	DIFR
222.00	150.76	176.10	187.91	198.03	187.38	8.58	DIFR
223.00	150.80	178.27	190.16	200.31	189.62	8.62	DIFR
224.00	150.84	180.46	192.41	202.59	191.86	8.66	DIFR
225.00	150.87	182.64	194.66	204.88	194.10	8.70	DIFR

RUN NO. 56

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 3 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.54	118.69	118.84	118.69	0.12	0.29
3.16	119.79	119.67	119.81	119.97	119.82	0.12	0.93
3.44	119.99	119.87	120.02	120.17	120.02	0.12	1.01
3.72	120.20	120.07	120.22	120.38	120.23	0.12	1.09
4.06	120.41	120.29	120.44	120.59	120.44	0.12	1.16
4.28	120.62	120.50	120.65	120.81	120.66	0.12	1.26
4.57	120.85	120.73	120.88	121.03	120.88	0.12	1.34
4.86	121.08	120.96	121.11	121.26	121.11	0.12	1.43
5.15	121.31	121.19	121.34	121.50	121.34	0.12	1.51
5.46	121.55	121.44	121.59	121.74	121.59	0.12	1.60
5.77	121.80	121.69	121.84	121.99	121.84	0.12	1.69
6.00	121.99	121.87	122.02	122.18	122.02	0.12	1.76
6.09	122.06	121.95	122.10	122.25	122.10	0.12	1.79
6.43	122.33	122.21	122.36	122.52	122.36	0.12	1.89
6.78	122.60	122.49	122.64	122.79	122.64	0.12	1.99
7.14	122.89	122.78	122.93	123.08	122.93	0.12	2.10
7.53	123.18	123.07	123.22	123.38	123.22	0.12	2.21
7.94	123.49	123.38	123.53	123.68	123.53	0.12	2.33
8.37	123.81	123.70	123.85	124.00	123.85	0.12	2.46
8.82	124.14	124.03	124.18	124.34	124.18	0.12	2.59
9.31	124.48	124.38	124.53	124.68	124.53	0.12	2.73
9.84	124.84	124.74	124.89	125.04	124.89	0.12	2.89
10.40	125.22	125.12	125.27	125.42	125.27	0.12	3.05
11.00	125.60	125.51	125.66	125.81	125.66	0.12	3.23
11.01	125.61	125.51	125.66	125.82	125.67	0.12	3.23
11.67	126.02	125.93	126.08	126.23	126.08	0.12	3.43
12.40	126.46	126.37	126.52	126.67	126.52	0.12	3.64
13.20	126.92	126.83	126.98	127.13	126.98	0.12	3.88
14.08	127.40	127.32	127.47	127.62	127.47	0.12	4.13
15.06	127.92	127.84	127.99	128.14	127.99	0.12	4.42
15.99	128.38	128.31	128.45	128.61	128.46	0.12	4.70
16.17	128.47	128.39	128.54	128.70	128.54	0.12	4.75
17.42	129.05	128.98	129.13	129.29	129.13	0.12	5.12
18.85	129.68	129.62	129.77	129.92	129.77	0.12	5.53
20.50	130.36	130.30	130.45	130.61	130.45	0.12	6.02
20.97	130.54	130.49	130.64	130.79	130.64	0.12	6.16
22.43	131.09	131.05	131.20	131.35	131.20	0.12	6.59
24.73	131.90	131.86	132.01	132.16	132.01	0.12	7.26
25.93	132.29	132.26	132.41	132.56	132.41	0.12	7.62
27.49	132.78	132.76	132.91	133.06	132.91	0.12	8.07
30.90	133.76	133.75	133.90	134.06	133.91	0.12	9.08
30.99	133.79	133.78	133.93	134.08	133.93	0.12	9.10
35.21	134.86	134.88	135.03	135.18	135.03	0.12	10.34
35.99	135.05	135.07	135.22	135.37	135.22	0.12	10.57
40.80	136.12	136.16	136.31	136.46	136.31	0.12	11.98
41.00	136.16	136.20	136.35	136.51	136.35	0.12	12.04
45.84	137.12	137.18	137.33	137.49	137.33	0.12	13.46
48.33	137.57	137.65	137.80	137.95	137.80	0.12	14.19
53.77	137.99	138.08	138.23	138.39	138.23	0.12	14.91
55.99	138.83	138.95	139.10	139.26	139.10	0.12	16.44
58.95	139.28	139.41	139.56	139.72	139.56	0.12	17.31
60.81	139.54	139.69	139.84	140.00	139.84	0.12	17.86

65.83	140.23	140.40	140.55	140.71	140.56	0.12	19.33
70.84	140.86	141.06	141.22	141.38	141.22	0.13	20.80
74.82	141.33	141.55	141.71	141.86	141.72	0.13	21.97
75.93	141.46	141.68	141.85	142.02	141.85	0.13	22.30
80.77	141.99	142.24	142.41	142.59	142.42	0.14	23.72
85.87	142.52	142.78	142.98	143.18	142.98	0.16	25.22
90.69	143.00	143.25	143.49	143.73	143.49	0.19	26.63
95.99	143.49	143.73	144.02	144.32	144.02	0.23	28.19
100.14	143.86	144.06	144.42	144.79	144.42	0.28	29.41
100.94	143.92	144.12	144.50	144.88	144.50	0.30	29.64
105.80	144.33	144.43	144.95	145.47	144.95	0.40	31.07
110.97	144.74	144.80	145.44	146.23	145.48	0.56	32.59
115.82	145.12	145.21	145.90	147.22	146.10	0.80	34.01
121.00	145.49	145.64	146.39	148.51	146.82	1.17	35.53
126.00	145.85	145.99	146.80	149.55	147.41	1.46	37.00
126.05	145.85	146.00	146.81	149.56	147.41	1.46	37.02
130.87	146.17	146.28	147.16	150.35	147.88	1.68	38.43
135.78	146.49	146.51	147.51	151.09	148.31	1.89	39.87
140.95	146.82	146.82	147.85	151.85	148.72	2.14	41.39
142.99	146.94	146.84	148.00	152.15	148.87	2.25	41.99
145.92	147.12	146.63	148.20	152.59	149.08	2.42	42.85
150.98	147.41	146.82	148.58	153.36	149.45	2.72	44.34
154.71	147.63	146.61	148.83	153.99	149.75	2.96	45.43
155.97	147.70	146.61	148.93	154.21	149.85	3.05	45.81
160.99	147.97	146.60	149.34	155.11	150.28	3.40	47.28
163.23	148.09	146.60	149.54	155.51	150.49	3.56	47.94
166.00	148.24	146.59	149.80	156.04	150.75	3.76	48.75
169.70	148.43	146.57	150.18	156.77	151.11	4.04	49.84
171.00	148.49	146.57	150.33	157.03	151.25	4.15	50.22
174.75	148.68	146.54	150.78	157.87	151.67	4.47	51.32
176.00	148.74	146.53	150.94	158.17	151.82	4.59	51.69
178.81	148.88	146.50	151.34	158.87	152.18	4.87	52.51
181.00	148.99	146.46	151.68	159.45	152.47	5.11	53.16
182.13	149.04	146.44	151.87	159.75	152.63	5.23	53.49
186.00	149.22	146.36	152.58	160.84	153.22	5.68	54.62
191.00	149.45	146.20	153.73	162.43	154.09	6.34	56.09
194.72	149.62	146.05	154.79	163.84	154.89	6.95	57.19
196.00	149.68	145.99	155.21	164.38	155.20	7.18	57.56
201.00	149.90	146.79	157.24	166.81	156.97	7.82	59.03
203.60	150.01	148.01	158.62	168.33	158.34	7.94	59.79
206.00	150.11	150.91	161.89	171.35	161.34	7.99	60.50
211.00	150.32	156.98	168.10	177.66	167.62	8.09	61.97
212.61	150.38	158.84	170.16	179.88	169.66	8.23	DIFA
215.00	150.48	165.79	177.25	187.08	176.74	8.33	DIFA
216.00	150.52	168.69	180.21	190.09	179.70	8.37	DIFA
217.00	150.56	171.60	183.17	193.09	182.65	8.40	DIFA
218.00	150.60	174.51	186.13	196.09	185.61	8.44	DIFA
219.00	150.64	177.42	189.09	199.09	188.57	8.48	DIFA
220.00	150.68	180.33	192.05	202.09	191.52	8.51	DIFA

RUN NO. 57

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA E: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPOSED VALUE	STD DEV	RFF DIST (NMI)
1.00	126.62	126.49	126.66	126.83	126.66	0.13	0.29
5.67	129.68	128.71	129.73	130.89	129.77	0.85	1.66
9.37	132.48	130.72	132.66	134.88	132.71	1.63	2.75
15.27	135.98	133.42	136.09	139.92	136.46	2.55	4.48
18.75	137.60	134.76	137.73	142.19	138.20	2.93	6.50
24.04	139.62	136.50	139.80	144.98	140.39	3.34	7.06
30.74	141.68	138.34	141.90	147.67	142.59	3.68	9.02
35.94	143.00	139.59	143.26	149.33	144.01	3.84	10.55
40.98	144.12	140.67	144.42	150.71	145.21	3.97	12.03
45.84	145.07	141.60	145.41	151.88	146.24	4.06	13.46
50.69	145.94	142.45	146.32	152.92	147.17	4.14	14.88
55.99	146.79	143.30	147.22	153.95	148.09	4.21	16.43
60.50	147.46	143.97	147.92	154.74	148.81	4.26	17.78
65.74	148.18	144.68	148.68	155.56	149.58	4.30	19.30
70.82	148.82	145.33	149.37	156.31	150.28	4.34	20.79
75.93	149.42	145.95	150.02	157.01	150.93	4.37	22.29
80.77	149.95	146.50	150.61	157.63	151.52	4.40	23.71
85.42	150.44	146.94	151.13	158.18	152.05	4.42	25.07
89.99	150.90	147.36	151.61	158.67	152.53	4.44	26.43
94.44	151.33	147.76	152.07	159.11	153.00	4.45	27.79
98.88	151.74	148.14	152.46	159.51	153.43	4.46	29.15
103.21	152.13	148.50	152.83	160.00	153.84	4.47	30.51
107.54	152.50	148.84	153.18	160.46	154.23	4.47	31.87
111.87	152.85	149.16	153.51	160.90	154.60	4.47	33.23
116.20	153.18	149.47	153.82	161.31	154.95	4.47	34.59
120.53	153.49	149.76	154.11	161.70	155.28	4.46	35.95
124.86	153.78	150.03	154.38	162.07	155.59	4.45	37.31
129.19	154.05	150.28	154.63	162.42	155.88	4.44	38.67
133.52	154.30	150.50	154.86	162.75	156.15	4.42	40.03
137.85	154.53	150.69	155.07	163.06	156.40	4.40	41.39
142.18	154.74	150.86	155.26	163.35	156.63	4.38	42.75
146.51	154.93	151.00	155.43	163.62	156.84	4.35	44.11
150.84	155.10	151.11	155.58	163.87	157.03	4.32	45.47
155.17	155.25	151.20	155.71	164.10	157.20	4.29	46.83
159.50	155.38	151.27	155.82	164.31	157.35	4.25	48.19
163.83	155.49	151.32	155.91	164.50	157.48	4.21	49.55
168.16	155.58	151.36	156.00	164.67	157.59	4.17	50.91
172.49	155.65	151.38	156.07	164.82	157.68	4.13	52.27
176.82	155.70	151.39	156.12	164.95	157.75	4.09	53.63
181.15	155.74	151.39	156.16	165.06	157.80	4.04	54.99
185.48	155.76	151.38	156.18	165.15	157.83	4.00	56.35
189.81	155.77	151.36	156.19	165.22	157.84	3.95	57.71
194.14	155.77	151.33	156.19	165.27	157.84	3.90	59.07
198.47	155.75	151.29	156.18	165.30	157.83	3.85	60.43
202.80	155.72	151.24	156.16	165.31	157.81	3.79	61.79
207.13	155.68	151.18	156.13	165.30	157.77	3.73	63.15
211.46	155.63	151.10	156.09	165.27	157.71	3.67	64.51
215.79	155.57	151.00	156.04	165.22	157.63	3.60	65.87
220.12	155.50	150.89	155.97	165.15	157.53	3.53	67.23
224.45	155.42	150.76	155.88	165.06	157.41	3.46	68.59
228.78	155.33	150.61	155.77	164.95	157.27	3.38	69.95
233.11	155.23	150.44	155.64	164.82	157.11	3.30	71.31
237.44	155.12	150.25	155.49	164.67	156.93	3.21	72.67
241.77	155.00	150.03	155.32	164.50	156.73	3.12	74.03
246.10	154.87	149.79	155.13	164.31	156.51	3.02	75.39
250.43	154.73	149.53	154.92	164.10	156.27	2.92	76.75
254.76	154.58	149.24	154.69	163.87	156.01	2.81	78.11
259.09	154.42	148.93	154.44	163.62	155.73	2.69	79.47
263.42	154.25	148.60	154.17	163.35	155.43	2.57	80.83
267.75	154.07	148.25	153.88	163.06	155.11	2.44	82.19
272.08	153.88	147.88	153.57	162.75	154.77	2.31	83.55
276.41	153.68	147.48	153.24	162.42	154.41	2.17	84.91
280.74	153.47	147.05	152.89	162.07	154.03	2.03	86.27
285.07	153.25	146.59	152.52	161.70	153.63	1.88	87.63
289.40	153.02	146.11	152.13	161.31	153.21	1.73	88.99
293.73	152.78	145.61	151.72	160.90	152.77	1.57	90.35
298.06	152.53	145.09	151.29	160.46	152.31	1.41	91.71
302.39	152.27	144.55	150.84	160.00	151.83	1.24	93.07
306.72	152.00	144.00	150.37	159.51	151.33	1.07	94.43
311.05	151.72	143.43	149.88	159.00	150.81	0.90	95.79
315.38	151.43	142.84	149.39	158.46	150.27	0.73	97.15
319.71	151.13	142.23	148.84	157.90	149.71	0.56	98.51
324.04	150.82	141.60	148.25	157.31	149.13	0.39	99.87
328.37	150.50	140.95	147.63	156.70	148.53	0.22	101.23
332.70	150.17	140.28	146.98	156.07	147.91	0.05	102.59

138.68	154.64	148.24	150.42	164.77	151.10	2.60	40.71
140.96	154.78	148.70	152.02	156.59	152.41	3.10	41.39
141.92	154.84	148.92	153.64	158.29	153.62	3.66	41.66
145.28	155.04	176.10	181.43	186.38	181.31	4.01	42.64
145.99	155.08	161.07	186.48	171.49	166.36	4.07	42.85
148.74	155.24	149.14	154.07	159.31	154.17	3.97	43.66
150.99	155.37	148.67	151.57	156.99	152.36	3.30	44.32
152.32	155.45	148.55	151.29	156.81	152.16	3.29	44.71
156.00	155.66	149.38	154.51	160.37	154.74	4.30	45.79
156.01	155.66	149.38	154.53	160.39	154.75	4.30	45.79
159.82	155.87	177.59	184.35	190.55	184.17	5.06	46.91
160.99	155.93	157.53	164.41	170.70	164.23	5.15	47.26
163.75	156.08	149.64	155.01	161.52	155.36	4.65	48.07
165.98	156.19	148.15	152.88	159.37	153.66	4.06	48.72
167.81	156.29	148.97	152.25	159.07	153.36	4.04	49.26
170.99	156.45	149.63	154.11	161.17	154.91	4.55	50.19
171.99	156.50	149.91	155.52	162.65	156.00	4.99	50.49
175.99	156.70	168.94	177.20	184.66	176.95	6.14	51.66
176.31	156.72	179.09	187.36	194.86	187.12	6.16	51.75
180.76	156.93	150.20	156.08	163.96	156.70	5.39	53.06
181.00	156.95	150.15	155.75	163.65	156.47	5.30	53.13
185.35	157.15	149.49	153.37	161.62	154.73	4.85	54.41
185.99	157.19	149.54	153.46	161.77	154.83	4.89	54.60
190.08	157.37	150.53	156.69	165.32	157.46	5.80	55.80
191.00	157.41	150.78	158.26	166.95	158.64	6.32	56.06
194.97	157.59	177.22	187.20	196.24	186.91	7.43	57.23
196.00	157.64	159.84	169.90	179.05	169.62	7.51	57.53
200.04	157.81	150.96	157.45	167.01	158.41	6.31	58.72
201.00	157.85	150.77	156.44	166.09	157.68	6.06	59.00
205.33	158.04	150.39	154.98	165.04	156.69	5.87	60.27
206.00	158.07	150.47	155.11	165.23	156.82	5.91	60.47
209.07	158.20	161.19	156.77	167.22	158.29	6.37	61.37
210.99	158.28	151.89	158.80	169.45	159.97	6.91	61.93
211.06	158.28	151.92	158.89	169.55	160.04	6.94	61.95
212.53	158.33	152.43	160.70	171.51	161.49	7.47	62.33
213.22	158.37	152.81	162.15	173.08	162.65	7.93	62.59
213.88	158.39	153.08	163.29	174.33	163.55	8.30	62.78
214.40	158.41	153.30	164.17	175.28	164.25	8.59	62.93
214.82	158.43	153.48	164.83	176.01	164.77	8.80	63.06
215.17	158.45	153.62	165.31	176.56	165.17	8.95	63.16
216.00	158.48	154.14	166.11	177.51	165.94	9.13	63.40
216.04	158.48	154.16	166.14	177.54	165.96	9.13	63.41
216.56	158.50	155.20	167.20	178.63	167.02	9.15	63.57
220.84	158.67	163.74	175.94	187.52	175.75	9.29	
223.00	158.76	170.21	182.54	194.18	182.32	9.37	
224.00	158.80	173.19	185.59	197.26	185.36	9.40	
225.00	158.83	176.17	188.64	200.33	188.40	9.44	
226.00	158.87	179.16	191.68	203.41	191.43	9.47	
227.00	158.91	182.15	194.73	206.48	194.47	9.51	
228.00	158.95	185.14	197.78	209.55	197.51	9.54	

RUN NO. 58

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	126.62	126.51	126.66	126.81	126.66	0.12	0.29
5.67	129.68	129.58	129.73	129.89	129.73	0.12	1.66
9.37	132.48	132.41	132.56	132.71	132.56	0.12	2.75
15.27	135.98	135.94	136.09	136.25	136.10	0.12	4.48
18.75	137.60	137.59	137.73	137.89	137.74	0.12	5.50
24.04	139.62	139.65	139.80	139.95	139.80	0.12	7.06
30.74	141.68	141.75	141.90	142.05	141.90	0.12	9.02
35.94	143.00	143.11	143.26	143.42	143.26	0.12	10.55
40.98	144.12	144.27	144.42	144.57	144.42	0.12	12.03
45.84	145.07	145.26	145.41	145.57	145.42	0.12	13.46
50.66	145.94	146.17	146.32	146.47	146.32	0.12	14.88
55.99	146.79	147.06	147.22	147.37	147.22	0.12	16.43
60.50	147.46	147.77	147.92	148.08	147.92	0.12	17.76
65.74	148.18	148.53	148.68	148.84	148.69	0.12	19.30
70.82	148.82	149.22	149.37	149.54	149.38	0.13	20.79
75.93	149.42	149.86	150.02	150.20	150.03	0.13	22.29
80.77	149.95	150.43	150.61	150.79	150.61	0.14	23.71
85.42	150.44	150.95	151.14	151.33	151.14	0.15	25.07
85.99	150.50	151.01	151.20	151.40	151.21	0.15	25.24
86.93	150.59	151.11	151.31	151.51	151.31	0.15	25.52
88.48	150.74	151.27	151.48	151.69	151.48	0.16	25.97
90.08	150.90	151.44	151.65	151.87	151.65	0.17	26.44
90.99	150.98	151.53	151.75	151.97	151.75	0.17	26.71
91.74	151.05	151.60	151.83	152.05	151.83	0.18	26.93
93.44	151.21	151.77	152.00	152.25	152.01	0.19	27.43
95.19	151.38	151.93	152.19	152.45	152.19	0.20	27.94
96.00	151.45	152.01	152.27	152.54	152.27	0.21	28.18
97.01	151.54	152.09	152.37	152.65	152.37	0.22	28.47
98.88	151.70	152.25	152.56	152.87	152.56	0.24	29.02
100.81	151.87	152.41	152.75	153.10	152.75	0.27	29.59
101.00	151.89	152.43	152.77	153.12	152.77	0.27	29.65
102.80	152.04	152.56	152.95	153.34	152.95	0.30	30.17
104.86	152.21	152.71	153.15	153.60	153.15	0.35	30.78
105.99	152.31	152.77	153.27	153.75	153.26	0.38	31.11
106.98	152.39	152.83	153.36	153.89	153.36	0.41	31.40
109.17	152.56	152.92	153.58	154.21	153.57	0.50	32.05
111.00	152.71	152.97	153.76	154.52	153.75	0.61	32.58
111.44	152.74	152.97	153.80	154.60	153.79	0.63	32.71
113.78	152.92	153.07	154.04	155.08	154.06	0.78	33.40
116.00	153.09	153.24	154.26	155.61	154.36	0.93	34.05
116.20	153.10	153.25	154.29	155.66	154.39	0.95	34.11
118.70	153.29	153.40	154.54	156.36	154.75	1.17	34.84
121.00	153.45	153.51	154.76	156.99	155.07	1.38	35.52
121.28	153.47	153.52	154.79	157.07	155.10	1.41	35.60
123.94	153.66	153.61	155.03	157.73	155.43	1.63	36.38
125.99	153.80	153.68	155.20	158.17	155.65	1.79	36.98
126.70	153.85	153.70	155.26	158.32	155.73	1.84	37.19
129.55	154.04	153.77	155.49	158.87	156.01	2.03	38.03
130.99	154.14	153.81	155.60	159.15	156.15	2.13	38.45
132.49	154.24	153.84	155.71	159.43	156.29	2.23	38.89
135.53	154.44	153.92	155.94	159.98	156.57	2.41	39.78
135.99	154.47	153.93	155.97	160.06	156.61	2.44	39.92

138.68	154.64	153.99	156.16	160.51	156.84	2.60	40.71
140.99	154.78	154.05	156.32	160.89	157.04	2.73	41.39
141.92	154.84	154.07	156.39	161.04	157.12	2.78	41.66
145.28	155.04	154.15	156.62	161.57	157.39	2.96	42.64
145.99	155.08	154.17	156.67	161.68	157.45	2.99	42.85
148.74	155.24	154.24	156.85	162.09	157.67	3.13	43.66
150.99	155.37	154.31	157.00	162.42	157.85	3.23	44.32
152.32	155.45	154.35	157.09	162.61	157.95	3.29	44.71
156.00	155.66	154.45	157.33	163.19	158.26	3.49	45.79
156.01	155.66	154.45	157.33	163.19	158.26	3.49	45.79
159.82	155.87	154.56	157.59	163.78	158.58	3.68	46.91
160.99	155.93	154.59	157.67	163.96	158.67	3.74	47.26
163.75	156.08	154.68	157.84	164.35	158.88	3.86	48.07
165.98	156.19	154.73	157.96	164.65	159.04	3.96	48.72
167.81	156.29	154.78	158.07	164.90	159.18	4.04	49.26
170.99	156.45	154.88	158.29	165.36	159.43	4.18	50.19
171.99	156.50	154.91	158.37	165.51	159.52	4.23	50.49
175.99	156.70	155.05	158.71	166.20	159.90	4.44	51.66
176.31	156.72	155.06	158.74	166.25	159.93	4.46	51.75
180.76	156.93	155.12	158.94	166.85	160.22	4.68	53.06
181.00	156.95	155.12	158.94	166.88	160.22	4.69	53.13
185.35	157.15	155.07	158.98	167.29	160.35	4.89	54.41
185.99	157.18	155.07	159.00	167.38	160.39	4.92	54.60
190.08	157.37	155.20	159.54	168.26	160.91	5.21	55.80
191.00	157.41	155.25	159.75	168.55	161.09	5.29	56.06
194.97	157.59	155.42	160.73	169.93	161.94	5.74	57.23
198.00	157.64	155.39	160.85	170.18	162.06	5.85	57.53
200.04	157.81	154.88	160.10	169.92	161.53	5.97	58.72
201.00	157.85	154.66	159.73	169.66	161.25	5.97	59.00
205.33	158.04	153.68	158.50	168.82	160.21	6.05	60.27
206.00	158.07	153.60	158.46	168.84	160.18	6.09	60.47
209.07	158.20	153.48	159.09	169.81	160.68	6.49	61.37
210.99	158.28	153.69	160.26	171.13	161.60	6.89	61.93
211.06	158.28	153.70	160.32	171.19	161.64	6.91	61.95
212.33	158.33	153.89	161.43	172.41	162.51	7.28	62.33
213.22	158.37	154.04	162.34	173.40	163.20	7.59	62.59
213.88	158.39	154.15	163.04	174.18	163.74	7.84	62.78
214.40	158.41	154.24	163.58	174.78	164.16	8.04	62.93
214.82	158.43	154.32	163.99	175.24	164.48	8.18	63.06
215.17	158.45	154.38	164.30	175.60	164.73	8.30	63.16
215.51	158.46	154.44	164.56	175.93	164.95	8.40	63.26
216.00	158.48	154.63	165.72	177.12	165.82	8.79	63.40
216.56	158.50	155.03	167.03	178.46	166.86	9.15	63.57
220.25	158.65	163.55	175.73	187.29	175.54	9.27	DIFR
223.00	158.76	171.85	184.17	195.82	183.96	9.37	DIFR
224.00	158.80	174.85	187.25	198.92	187.02	9.40	DIFR
225.00	158.83	177.86	190.32	202.02	190.08	9.44	DIFR
226.00	158.87	180.87	193.39	205.11	193.14	9.47	DIFR
227.00	158.91	183.88	196.46	208.21	196.20	9.51	DIFR
228.00	158.95	186.89	199.54	211.31	199.26	9.54	DIFR

RUN NO. 59

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	126.62	126.51	126.66	126.81	126.66	0.12	0.29
5.67	129.68	129.58	129.73	129.89	129.73	0.12	1.66
9.37	132.48	132.41	132.56	132.71	132.56	0.12	2.75
15.27	135.98	135.94	136.09	136.25	136.10	0.12	4.48
18.75	137.60	137.59	137.73	137.89	137.74	0.12	5.50
24.04	139.62	139.65	139.80	139.95	139.80	0.12	7.06
30.74	141.68	141.75	141.90	142.05	141.90	0.12	9.02
35.94	143.00	143.11	143.26	143.42	143.26	0.12	10.55
40.98	144.12	144.27	144.42	144.57	144.42	0.12	12.03
45.84	145.07	145.26	145.41	145.57	145.42	0.12	13.46
50.69	145.94	146.17	146.32	146.47	146.32	0.12	14.88
55.99	146.79	147.06	147.22	147.37	147.22	0.12	16.43
60.50	147.46	147.77	147.92	148.08	147.92	0.12	17.76
65.74	148.18	148.53	148.68	148.84	148.69	0.12	19.20
70.82	148.82	149.22	149.37	149.54	149.38	0.13	20.79
75.93	149.42	149.86	150.02	150.20	150.03	0.13	22.29
80.77	149.95	150.43	150.61	150.79	150.61	0.14	23.71
85.42	150.44	150.95	151.14	151.33	151.14	0.15	25.07
85.99	150.50	151.01	151.20	151.40	151.21	0.15	25.24
86.93	150.59	151.11	151.31	151.51	151.31	0.15	25.52
88.48	150.74	151.27	151.48	151.69	151.48	0.16	25.97
90.08	150.90	151.44	151.65	151.87	151.65	0.17	26.44
90.99	150.98	151.53	151.75	151.97	151.75	0.17	26.71
91.74	151.05	151.60	151.83	152.05	151.83	0.18	26.93
93.44	151.21	151.77	152.00	152.25	152.01	0.19	27.43
95.19	151.38	151.93	152.19	152.45	152.19	0.20	27.94
96.00	151.45	152.01	152.27	152.54	152.27	0.21	28.18
97.01	151.54	152.09	152.37	152.65	152.37	0.22	28.47
98.88	151.70	152.25	152.56	152.87	152.56	0.24	29.02
100.81	151.87	152.41	152.75	153.10	152.75	0.27	29.59
101.00	151.89	152.43	152.77	153.12	152.77	0.27	29.65
102.80	152.04	152.56	152.95	153.34	152.95	0.30	30.17
104.86	152.21	152.71	153.15	153.60	153.15	0.35	30.78
105.99	152.31	152.77	153.27	153.75	153.26	0.38	31.11
106.98	152.39	152.83	153.36	153.89	153.36	0.41	31.40
109.17	152.56	152.92	153.58	154.21	153.57	0.50	32.05
111.00	152.71	152.97	153.76	154.52	153.75	0.61	32.58
111.44	152.74	152.97	153.80	154.60	153.79	0.63	32.71
113.78	152.92	153.07	154.04	155.06	154.06	0.78	33.40
116.00	153.09	153.24	154.26	155.61	154.36	0.93	34.05
116.20	153.10	153.25	154.29	155.66	154.39	0.95	34.11
118.70	153.29	153.40	154.54	156.36	154.75	1.17	34.84
121.00	153.45	153.51	154.76	156.99	155.07	1.38	35.52
121.28	153.47	153.52	154.79	157.07	155.10	1.41	35.60
123.94	153.66	153.61	155.03	157.73	155.43	1.63	36.38
125.99	153.80	153.68	155.20	158.17	155.65	1.79	36.98
126.70	153.85	153.70	155.25	158.32	155.73	1.84	37.19
129.55	154.04	153.77	155.49	158.87	156.01	2.03	38.03
130.99	154.14	153.81	155.60	159.15	156.15	2.13	38.45
132.49	154.24	153.84	155.71	159.43	156.29	2.23	38.89
135.53	154.44	153.92	155.94	159.98	156.57	2.41	39.78
135.99	154.47	153.93	155.97	160.06	156.61	2.44	39.92

138.88	154.64	153.99	156.16	160.51	156.84	2.60	40.71
140.99	154.78	154.05	156.32	160.89	157.04	2.73	41.39
141.92	154.84	154.07	156.39	161.04	157.12	2.78	41.66
145.28	155.04	154.15	156.62	161.57	157.39	2.96	42.64
145.99	155.08	154.17	156.67	161.68	157.45	2.99	42.85
148.74	155.24	154.24	156.85	162.09	157.67	3.13	43.66
150.99	155.37	154.31	157.00	162.42	157.85	3.23	44.32
152.32	155.45	154.35	157.09	162.61	157.95	3.29	44.71
156.00	155.66	154.45	157.33	163.19	158.26	3.49	45.79
156.01	155.66	154.45	157.33	163.19	158.26	3.49	45.79
159.82	155.87	154.56	157.59	163.78	158.58	3.68	46.91
160.99	155.93	154.59	157.67	163.96	158.67	3.74	47.26
163.75	156.08	154.68	157.84	164.35	158.88	3.80	48.07
165.98	156.19	154.73	157.96	164.65	159.04	3.96	48.72
167.81	156.29	154.78	158.07	164.90	159.18	4.04	49.26
170.99	156.45	154.88	158.29	165.35	159.43	4.18	50.19
171.99	156.50	154.91	158.37	165.51	159.52	4.23	50.49
175.99	156.70	155.05	158.71	166.20	159.90	4.44	51.66
176.31	156.72	155.06	158.74	166.25	159.93	4.46	51.75
180.76	156.93	155.12	158.94	166.85	160.22	4.58	53.06
181.00	156.95	155.12	158.94	166.88	160.22	4.69	53.13
185.35	157.15	155.07	158.98	167.29	160.35	4.89	54.41
185.99	157.18	155.07	159.00	167.38	160.39	4.92	54.60
190.08	157.37	155.20	159.54	168.26	160.91	5.21	55.80
191.00	157.41	155.25	159.73	168.33	161.09	5.29	56.06
194.97	157.59	155.42	160.73	169.93	161.94	5.74	57.23
196.00	157.64	155.39	160.85	170.18	162.06	5.85	57.53
200.04	157.81	154.88	160.10	169.92	161.53	5.97	58.72
201.00	157.85	154.66	159.73	169.66	161.25	5.97	59.00
203.94	157.98	153.94	158.73	168.93	160.42	5.99	59.86
205.33	158.04	154.68	161.54	171.85	162.52	6.76	60.27
206.00	158.07	154.83	162.88	173.26	163.61	7.22	60.47
209.07	158.20	157.77	169.07	179.78	168.89	8.60	61.37
209.57	158.22	158.62	170.07	180.86	169.86	8.69	D:FR
212.00	158.32	164.88	176.48	187.35	176.25	8.78	D:FR
213.00	158.36	167.45	179.12	190.04	178.89	8.82	D:FR
214.00	158.40	170.03	181.76	192.72	181.52	8.86	D:FR
215.00	158.44	172.61	184.39	195.40	184.15	8.90	D:FR
216.00	158.48	175.19	187.03	198.08	186.78	8.94	D:FR
217.00	158.52	177.78	189.67	200.75	189.42	8.98	D:FR
218.00	158.56	180.37	192.30	203.43	192.05	9.01	D:FR

RUN NO. 60

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 3300 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA H: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	126.62	126.51	126.66	126.81	126.66	0.12	0.29
5.67	129.68	129.58	129.73	129.89	129.73	0.12	1.66
9.37	132.48	132.41	132.56	132.71	132.56	0.12	2.75
15.27	135.98	135.94	136.09	136.25	136.10	0.12	4.48
18.75	137.60	137.59	137.73	137.89	137.74	0.12	5.50
24.04	139.62	139.65	139.80	139.95	139.80	0.12	7.06
30.74	141.68	141.75	141.90	142.05	141.90	0.12	9.02
35.94	143.00	143.11	143.26	143.42	143.26	0.12	10.55
40.98	144.12	144.27	144.42	144.57	144.42	0.12	12.03
45.84	145.07	145.26	145.41	145.57	145.42	0.12	13.46
50.69	145.94	146.17	146.32	146.47	146.32	0.12	14.88
55.99	146.79	147.06	147.22	147.37	147.22	0.12	16.43
60.50	147.46	147.77	147.92	148.08	147.92	0.12	17.76
65.74	148.18	148.53	148.68	148.84	148.69	0.12	19.30
70.82	148.62	149.22	149.37	149.54	149.38	0.13	20.79
75.93	149.42	149.86	150.02	150.20	150.03	0.13	22.29
80.77	149.95	150.43	150.61	150.79	150.61	0.14	23.71
85.42	150.44	150.95	151.14	151.33	151.14	0.15	25.07
85.99	150.50	151.01	151.20	151.40	151.21	0.15	25.24
86.93	150.59	151.11	151.31	151.51	151.31	0.15	25.52
88.48	150.74	151.27	151.48	151.69	151.48	0.16	25.97
90.08	150.90	151.44	151.65	151.87	151.65	0.17	26.44
90.99	150.98	151.53	151.75	151.97	151.75	0.17	26.71
91.74	151.05	151.60	151.83	152.05	151.83	0.18	26.93
93.44	151.21	151.77	152.00	152.25	152.01	0.19	27.43
95.19	151.38	151.93	152.19	152.45	152.19	0.20	27.94
96.00	151.45	152.01	152.27	152.54	152.27	0.21	28.18
97.01	151.54	152.09	152.37	152.65	152.37	0.22	28.47
98.88	151.70	152.25	152.56	152.87	152.56	0.24	29.02
100.81	151.87	152.41	152.75	153.10	152.75	0.27	29.59
101.00	151.89	152.43	152.77	153.12	152.77	0.27	29.65
102.80	152.04	152.56	152.95	153.34	152.95	0.30	30.17
104.86	152.21	152.71	153.15	153.60	153.15	0.35	30.78
105.99	152.31	152.77	153.27	153.75	153.28	0.38	31.11
106.98	152.39	152.83	153.36	153.89	153.36	0.41	31.40
109.17	152.56	152.92	153.58	154.21	153.57	0.50	32.05
111.00	152.71	152.97	153.76	154.52	153.75	0.61	32.58
111.44	152.74	152.97	153.80	154.60	153.79	0.63	32.71
113.78	152.92	153.07	154.04	155.06	154.06	0.78	33.40
116.00	153.09	153.24	154.26	155.61	154.36	0.93	34.05
116.20	153.10	153.25	154.29	155.66	154.39	0.95	34.11
118.70	153.29	153.40	154.54	156.36	154.75	1.17	34.84
121.00	153.45	153.51	154.76	156.99	155.07	1.38	35.52
121.28	153.47	153.52	154.79	157.07	155.10	1.41	35.60
123.94	153.66	153.61	155.03	157.73	155.43	1.63	36.38
125.99	153.80	153.68	155.20	158.17	155.65	1.79	36.98
126.70	153.85	153.70	155.26	158.32	155.73	1.84	37.19
129.55	154.04	153.77	155.49	158.87	156.01	2.03	38.03
130.99	154.14	153.81	155.60	159.15	156.15	2.13	38.45
132.49	154.24	153.84	155.71	159.43	156.29	2.23	38.89
135.53	154.44	153.92	155.94	159.98	156.57	2.41	39.78
135.99	154.47	153.93	155.97	160.06	156.61	2.44	39.92

138.68	154.64	153.99	156.16	160.51	156.84	2.60	40.71
140.99	154.78	154.05	156.32	160.89	157.04	2.73	41.39
141.92	154.84	154.07	156.39	161.04	157.12	2.78	41.66
145.28	155.04	154.15	156.62	161.57	157.39	2.96	42.64
145.99	155.08	154.17	156.67	161.68	157.45	2.99	42.85
148.74	155.24	154.24	156.85	162.09	157.67	3.13	43.66
150.99	155.37	154.31	157.00	162.42	157.85	3.23	44.32
152.32	155.45	154.35	157.09	162.61	157.95	3.29	44.71
156.00	155.66	154.45	157.33	163.19	158.28	3.49	45.79
156.01	155.66	154.45	157.33	163.19	158.26	3.49	45.79
159.82	155.87	154.56	157.59	163.78	158.58	3.68	46.91
160.99	155.93	154.59	157.67	163.96	158.67	3.74	47.26
163.75	156.08	154.68	157.84	164.35	158.83	3.86	48.07
165.98	156.19	154.73	157.96	164.65	159.04	3.96	48.72
167.81	156.29	154.78	158.07	164.90	159.18	4.04	49.26
168.69	156.33	154.81	158.13	165.02	159.24	4.08	49.52
170.99	156.45	155.27	159.30	166.37	160.25	4.40	50.19
171.99	156.50	155.42	159.82	166.96	160.67	4.55	50.49
175.99	156.70	155.86	161.87	169.35	162.33	5.28	51.66
176.31	156.72	155.89	162.03	169.55	162.46	5.34	51.75
180.76	156.93	156.20	164.21	172.23	164.25	6.26	53.06
181.00	156.95	156.21	164.44	172.37	164.35	6.31	53.13
182.16	157.00	155.98	165.03	173.16	164.74	6.71	DIFR
185.00	157.14	157.82	167.09	175.33	166.77	6.85	DIFR
186.00	157.18	158.48	167.82	176.10	167.49	6.89	DIFR
187.00	157.23	159.13	168.54	176.86	168.20	6.93	DIFR
188.00	157.27	159.80	169.27	177.62	168.92	6.97	DIFR
189.00	157.32	160.46	170.00	178.38	169.64	7.01	DIFR
190.00	157.37	161.13	170.72	179.14	170.36	7.04	DIFR
191.00	157.41	161.78	171.45	179.90	171.07	7.08	DIFR
192.00	157.46	162.41	172.18	180.66	171.78	7.14	DIFR
193.00	157.50	163.05	172.90	181.42	172.46	7.18	DIFR
194.00	157.55	163.69	173.63	182.20	173.20	7.24	DIFR
195.00	157.59	164.33	174.36	182.98	173.92	7.29	DIFR
196.00	157.64	164.98	175.08	183.76	174.64	7.34	DIFR
197.00	157.66	165.63	175.81	184.57	175.37	7.40	DIFR
198.00	157.72	166.27	176.54	185.41	176.10	7.48	DIFR
199.00	157.77	166.92	177.26	186.26	176.84	7.56	DIFR
200.00	157.81	167.56	177.99	187.10	177.58	7.64	DIFR
201.00	157.85	168.21	178.72	187.94	178.32	7.71	DIFR
202.00	157.90	168.87	179.45	188.78	179.06	7.78	DIFR
203.00	157.94	169.52	180.18	189.61	179.80	7.85	DIFR

RUN NO. 61

JOHNSON AFB GRIFFIN
 AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE: ISOTROPIC
 FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE: ISOTROPIC
 HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI
 TERRAIN DELTA: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI
 CLIMATE: DESERT SURFACE TYPE: POOR GROUND
 SURFACE REFLECTION LOBBING: DETERMINES MEDIAN TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.67	135.70	134.77	135.79	136.94	135.83	0.85	1.68
9.37	138.50	136.79	138.62	140.95	138.78	1.63	2.77
15.27	142.00	139.51	142.18	146.01	142.54	2.55	4.52
18.75	143.62	140.86	143.84	148.30	144.30	2.93	5.55
24.04	145.65	142.63	145.93	151.10	146.51	3.34	7.12
30.74	147.70	144.50	148.06	153.82	148.74	3.68	9.10
35.94	149.02	145.77	149.44	155.51	150.19	3.84	10.64
40.98	150.14	146.87	150.62	156.91	151.41	3.97	12.13
45.84	151.10	147.82	151.64	158.10	152.47	4.06	13.57
50.69	151.96	148.70	152.56	159.17	153.42	4.14	15.00
55.99	152.81	149.57	153.49	160.22	154.37	4.21	16.57
60.50	153.48	150.26	154.22	161.03	155.11	4.26	17.91
65.74	154.20	151.00	155.01	161.89	155.91	4.30	19.46
70.82	154.84	151.68	155.72	162.66	156.63	4.34	20.96
75.93	155.44	152.32	156.40	163.39	157.31	4.37	22.47
80.77	155.97	152.90	157.01	164.04	157.92	4.40	23.91
85.87	156.50	153.49	157.63	164.69	158.54	4.43	25.42
90.69	156.98	154.02	158.18	165.28	159.10	4.45	26.84
95.98	157.47	154.57	158.77	165.90	159.68	4.48	28.41
100.84	157.88	155.05	159.27	166.44	160.19	4.50	29.79
105.64	158.30	155.53	159.80	167.02	160.72	4.54	31.27
110.98	158.72	156.01	160.36	167.66	161.28	4.60	32.85
115.92	159.09	156.35	160.89	168.31	161.79	4.72	34.28
121.00	159.47	156.51	161.44	169.11	162.30	4.96	35.81
125.92	159.82	156.56	161.92	169.83	162.71	5.22	37.27
129.55	160.07	156.71	162.54	170.70	163.95	2.75	38.34
131.00	160.16	156.39	162.61	170.93	163.64	3.34	38.77
131.01	160.16	155.43	159.68	163.98	169.69	3.34	38.77
132.49	160.26	181.24	185.63	190.10	185.65	3.46	39.21
134.00	160.36	155.33	159.90	164.53	159.92	3.59	39.66
135.53	160.46	153.93	157.01	161.80	157.54	3.10	40.11
136.00	160.49	154.03	157.29	162.12	157.78	3.18	40.25
137.09	160.56	155.24	160.14	165.07	160.15	3.84	40.57
138.68	160.66	181.88	186.94	192.02	186.95	3.96	41.04
140.29	160.76	155.18	160.38	165.61	160.39	4.08	41.52
141.00	160.80	154.37	158.31	163.61	158.73	3.62	41.73
141.92	160.86	154.15	157.50	162.88	158.13	3.44	42.00
143.59	160.96	155.14	160.63	166.15	160.64	4.30	42.50
145.28	161.06	182.66	188.33	193.99	188.33	4.43	43.00
146.00	161.10	161.78	167.53	173.25	167.52	4.48	43.21
146.99	161.16	155.03	160.89	166.68	160.87	4.55	43.51
148.74	161.26	154.40	158.01	163.94	158.73	3.77	44.02
150.51	161.37	155.07	161.15	167.22	161.15	4.74	44.55
151.00	161.39	157.27	163.49	169.60	163.46	4.82	44.69
152.32	161.47	183.49	189.03	196.06	189.80	4.91	45.08
154.15	161.57	155.21	161.42	167.81	161.48	4.92	45.62
156.00	161.68	154.66	158.55	165.10	159.38	4.13	46.17
158.01	161.68	154.66	158.55	165.10	159.38	4.13	46.17
157.90	161.78	155.35	161.10	169.41	161.81	5.11	46.73
159.82	161.89	184.36	191.43	198.51	191.37	5.45	47.30
161.00	161.95	158.53	165.70	172.68	165.64	5.53	47.65

161.77	161.99	155.49	161.98	169.03	162.16	5.29	47.88
163.75	162.10	154.93	159.13	166.34	160.07	4.52	48.47
165.76	162.20	155.84	162.29	169.67	162.51	5.49	49.06
166.00	162.22	155.73	163.17	170.57	163.16	5.79	49.13
167.81	162.31	165.29	193.09	200.63	193.01	5.99	49.67
169.89	162.42	155.78	162.80	170.31	162.88	5.68	50.28
171.00	162.47	155.38	160.29	168.08	161.18	5.01	50.81
171.99	162.62	155.21	159.75	167.62	160.79	4.91	50.90
174.14	162.63	155.93	162.93	171.00	163.26	5.89	51.64
176.00	162.72	170.40	178.93	187.17	178.84	6.55	52.09
176.31	162.74	186.12	194.67	202.94	194.68	6.87	52.18
178.62	162.85	156.08	163.27	171.77	163.68	6.14	52.84
180.76	162.95	155.51	180.44	169.17	161.63	5.41	53.50
181.00	162.97	165.53	160.49	169.24	161.67	6.43	53.57
183.04	163.06	156.24	163.63	172.59	164.12	6.40	54.17
185.35	163.17	186.28	195.71	204.89	195.63	7.27	54.88
186.00	163.20	184.68	174.16	183.40	174.09	7.31	55.05
187.70	163.28	156.41	164.02	172.43	164.58	6.66	55.55
190.08	163.39	155.79	161.22	170.87	162.54	5.97	56.26
191.00	163.43	155.91	161.68	171.44	162.93	6.14	56.53
192.51	163.50	156.49	164.44	174.38	165.06	7.00	56.98
194.97	163.61	184.38	194.81	205.08	194.76	8.00	57.71
196.99	163.68	161.19	171.74	182.16	171.70	8.19	58.01
197.48	163.72	156.54	164.90	175.57	165.62	7.45	58.45
200.04	163.83	155.91	162.16	172.99	163.59	6.76	59.20
201.00	163.88	156.12	162.64	173.51	163.99	6.87	59.49
202.65	163.95	156.89	165.48	176.38	166.19	7.64	60.98
205.33	164.06	177.34	188.62	199.64	188.54	8.71	60.77
206.00	164.09	165.63	176.97	188.00	176.87	6.74	60.97
208.11	164.18	157.50	166.23	177.33	166.97	7.77	61.59
211.00	164.30	157.33	163.87	175.08	165.33	7.02	62.45
211.06	164.30	157.35	163.88	175.10	165.34	7.02	62.47
213.22	164.39	168.24	165.72	177.03	166.92	7.39	63.10
214.40	164.44	158.94	167.74	179.11	168.54	7.90	63.45
215.17	164.47	159.41	169.35	180.77	169.81	8.35	63.68
215.72	164.49	159.74	170.57	182.03	170.77	8.71	63.85
216.00	164.50	159.91	171.17	182.64	171.24	8.88	63.93
216.13	164.51	159.99	171.45	182.93	171.45	8.98	63.97
216.40	164.52	160.17	172.08	183.67	171.95	9.14	64.07
216.73	164.53	160.42	172.52	184.02	172.33	9.22	64.15
216.98	164.54	160.71	172.82	184.33	172.64	9.23	64.21
217.27	164.55	161.02	173.14	184.66	172.95	9.24	64.31
217.87	164.57	162.67	174.82	186.36	174.63	9.26	64.48
220.84	164.69	170.89	183.19	194.82	182.98	9.35	
223.00	164.78	179.06	191.52	203.71	191.28	9.43	
224.00	164.82	182.85	195.37	207.09	195.12	9.47	
225.00	164.85	186.64	199.22	210.96	198.96	9.50	
226.00	164.89	190.43	203.07	214.83	202.80	9.53	
227.00	164.93	193.72	206.41	218.21	206.13	9.57	
228.00	164.97	195.37	208.12	219.98	207.84	9.61	

RUN NO. 62

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.76	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.86	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
116.82	159.09	158.86	160.89	163.99	160.04	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
129.55	160.07	159.41	162.24	166.40	162.65	2.75	38.34
131.00	160.16	159.47	162.36	166.68	162.81	2.84	38.77
131.01	160.16	159.47	162.37	166.69	162.81	2.84	38.77
132.49	160.26	159.54	162.49	166.97	162.97	2.93	39.21
134.00	160.36	159.60	162.62	167.25	163.12	3.01	39.66
135.53	160.46	159.68	162.74	167.53	163.27	3.10	40.11
136.00	160.49	159.68	162.78	167.61	163.32	3.12	40.26
137.69	160.56	159.72	162.87	167.80	163.43	3.18	40.57
138.68	160.56	159.79	163.00	168.08	163.58	3.27	41.04
140.29	160.76	159.85	163.13	168.36	163.74	3.36	41.52
141.00	160.80	159.87	163.18	168.48	163.80	3.39	41.73
141.92	160.86	159.91	163.26	168.64	163.89	3.44	42.00
143.59	160.96	159.98	163.39	168.91	164.05	3.52	42.50
145.28	161.06	160.05	163.52	169.18	164.20	3.60	43.00
146.00	161.10	160.08	163.58	169.29	164.27	3.64	43.21
146.99	161.16	160.12	163.66	169.45	164.36	3.69	43.51
148.74	161.26	160.19	163.79	169.73	164.52	3.77	44.02
150.51	161.37	160.26	163.93	170.00	164.68	3.85	44.55
151.00	161.39	160.28	163.97	170.08	164.72	3.87	44.69
152.32	161.47	160.33	164.07	170.30	164.85	3.94	45.08
154.15	161.57	160.40	164.21	170.61	165.02	4.03	45.62
156.00	161.68	160.47	164.36	170.91	165.19	4.13	46.17
156.01	161.68	160.47	164.36	170.92	165.19	4.13	46.17
157.90	161.78	160.54	164.51	171.22	165.36	4.22	46.73
159.82	161.89	160.61	164.65	171.54	165.54	4.32	47.30
161.00	161.95	160.66	164.75	171.73	165.65	4.38	47.65

161.77	161.99	160.69	164.81	171.86	165.72	4.42	47.88
163.75	162.10	160.76	164.96	172.18	165.90	4.52	48.47
165.76	162.20	160.84	165.12	172.50	166.09	4.61	49.06
166.00	162.22	160.85	165.14	172.54	166.11	4.63	49.13
167.81	162.31	160.91	165.28	172.82	166.27	4.71	49.67
169.89	162.42	160.99	165.44	173.15	166.46	4.81	50.28
171.00	162.47	161.03	165.53	173.32	166.56	4.86	50.61
171.99	162.52	161.07	165.61	173.48	166.65	4.91	50.90
174.14	162.63	161.15	165.78	173.85	166.85	5.03	51.54
176.00	162.72	161.22	165.93	174.17	167.03	5.13	52.09
176.31	162.74	161.23	165.95	174.22	167.06	5.14	52.18
178.52	162.85	161.30	166.13	174.63	167.28	5.26	52.84
180.76	162.95	161.38	166.31	175.04	167.49	5.41	53.50
181.00	162.97	161.39	166.33	175.08	167.52	5.42	53.57
183.04	163.06	161.46	166.50	175.45	167.72	5.54	54.17
185.35	163.17	161.54	166.70	175.88	167.95	5.68	54.86
186.00	163.20	161.56	166.75	175.99	168.01	5.72	55.05
187.70	163.28	161.61	166.88	176.29	168.17	5.82	55.55
190.08	163.39	161.63	167.05	176.71	168.37	5.98	56.26
191.00	163.43	161.62	167.13	176.89	168.45	6.05	56.53
192.51	163.50	161.61	167.28	177.23	168.62	6.18	56.98
194.97	163.61	161.61	167.57	177.84	168.92	6.42	57.71
195.99	163.66	161.58	167.66	178.08	169.01	6.53	58.01
197.48	163.72	161.49	167.70	178.37	169.09	6.68	58.45
200.04	163.83	161.44	167.69	178.52	169.12	6.76	59.20
201.00	163.88	161.47	167.76	178.64	169.19	6.79	59.49
202.65	163.95	161.57	168.14	179.07	169.50	6.91	59.98
205.33	164.06	161.74	169.12	180.14	170.26	7.24	60.77
206.00	164.09	161.72	169.21	180.25	170.32	7.29	60.97
208.11	164.18	161.40	168.56	179.66	169.79	7.19	61.59
211.00	164.30	160.74	167.28	178.49	168.74	7.02	62.45
211.06	164.30	160.74	167.27	178.48	168.73	7.02	62.47
213.22	164.39	160.70	167.86	179.17	169.15	7.28	63.10
214.40	164.44	160.85	168.06	180.24	169.91	7.61	63.45
215.17	164.47	160.97	169.72	181.13	170.55	7.90	63.66
215.72	164.49	161.06	170.37	181.83	171.04	8.13	63.85
216.00	164.50	161.11	170.69	182.17	171.29	8.24	63.93
216.13	164.51	161.14	170.85	182.33	171.40	8.29	63.97
216.46	164.52	161.19	171.20	182.69	171.67	8.41	64.07
216.71	164.53	161.24	171.45	182.95	171.85	8.49	64.14
216.73	164.53	161.25	171.51	183.01	171.89	8.50	64.15
216.96	164.54	161.35	172.24	183.75	172.43	8.75	64.21
217.87	164.57	163.08	175.23	186.77	175.04	9.26	64.48
220.25	164.67	170.77	183.03	194.65	182.83	9.33	DIFR
223.00	164.78	181.22	193.67	205.36	193.43	9.43	DIFR
224.00	164.82	185.02	197.54	209.26	197.29	9.47	DIFR
225.00	164.95	188.83	201.41	213.15	201.15	9.50	DIFR
226.00	164.89	192.64	205.28	217.04	205.01	9.53	DIFR
227.00	164.93	194.85	207.54	219.34	207.26	9.57	SCAT
228.00	164.97	196.37	209.12	220.97	208.84	9.51	SCAT

RUN NO. 63

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 30 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST IT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
129.55	160.07	159.41	162.24	166.40	162.65	2.75	38.34
131.00	160.16	159.47	162.36	166.68	162.81	2.84	38.77
131.01	160.16	159.47	162.37	166.69	162.81	2.84	38.77
132.49	160.26	159.54	162.49	166.97	162.97	2.93	39.21
134.00	160.36	159.60	162.62	167.25	163.12	3.01	39.66
135.53	160.46	159.66	162.74	167.53	163.27	3.10	40.11
136.00	160.49	159.68	162.78	167.61	163.32	3.12	40.25
137.09	160.56	159.72	162.87	167.80	163.43	3.18	40.57
138.68	160.66	159.79	163.00	168.08	163.58	3.27	41.04
140.29	160.76	159.85	163.13	168.36	163.74	3.36	41.52
141.03	160.80	159.87	163.18	168.48	163.80	3.39	41.73
141.92	160.86	159.91	163.26	168.64	163.89	3.44	42.00
143.59	160.96	159.98	163.39	168.91	164.05	3.52	42.50
145.28	161.06	160.05	163.52	169.18	164.20	3.60	43.00
146.00	161.10	160.08	163.58	169.29	164.27	3.64	43.21
146.99	161.16	160.12	163.66	169.45	164.36	3.69	43.51
148.74	161.26	160.19	163.79	169.73	164.52	3.77	44.02
150.51	161.37	160.26	163.93	170.00	164.68	3.85	44.55
151.03	161.39	160.28	163.97	170.08	164.72	3.87	44.69
152.32	161.47	160.33	164.07	170.30	164.85	3.94	45.08
154.15	161.57	160.40	164.21	170.61	165.02	4.03	45.62
156.00	161.68	160.47	164.36	170.91	165.19	4.13	46.17
156.01	161.68	160.47	164.36	170.92	165.19	4.13	46.17
157.90	161.78	160.54	164.51	171.22	165.36	4.22	46.73
159.82	161.89	160.61	164.65	171.54	165.54	4.32	47.30
161.00	161.95	160.66	164.75	171.73	165.65	4.38	47.65

161.77	161.99	160.69	164.81	171.86	165.72	4.42	47.88
163.75	162.10	160.76	164.96	172.18	165.90	4.52	48.47
165.76	162.20	160.84	165.12	172.50	166.09	4.61	49.06
166.00	162.22	160.85	165.14	172.54	166.11	4.63	49.13
167.81	162.31	160.91	165.28	172.82	166.27	4.71	49.67
169.89	162.42	160.99	165.44	173.15	166.46	4.81	50.28
171.00	162.47	161.03	165.53	173.32	166.56	4.86	50.61
171.99	162.52	161.07	165.61	173.48	166.65	4.91	50.90
174.14	162.63	161.15	165.78	173.85	166.85	5.03	51.54
176.00	162.72	161.22	165.93	174.17	167.03	5.13	52.09
176.31	162.74	161.23	165.95	174.22	167.06	5.14	52.18
178.52	162.85	161.30	166.13	174.63	167.28	5.28	52.84
180.76	162.95	161.38	166.31	175.04	167.49	5.41	53.50
181.00	162.97	161.39	166.33	175.08	167.52	5.42	53.57
183.04	163.05	161.46	166.50	175.45	167.72	5.54	54.17
185.35	163.17	161.54	166.70	175.88	167.95	5.68	54.86
186.00	163.20	161.56	166.75	175.99	168.01	5.72	55.05
187.70	163.28	161.61	166.88	176.29	168.17	5.82	55.55
190.08	163.39	161.63	167.05	176.71	168.33	5.98	56.26
191.00	163.43	161.62	167.13	176.89	168.41	6.05	56.53
192.51	163.50	161.61	167.28	177.23	168.62	6.18	56.98
194.97	163.61	161.61	167.57	177.84	168.92	6.42	57.71
195.99	163.66	161.58	167.66	178.08	169.01	6.53	58.01
197.48	163.72	161.49	167.70	178.37	169.00	6.68	58.45
200.04	163.83	161.44	167.69	178.52	169.12	6.76	59.20
201.00	163.88	161.47	167.76	178.64	169.19	6.79	59.49
202.65	163.95	161.57	168.14	179.07	169.50	6.91	59.98
205.21	164.06	161.74	169.09	180.10	170.23	7.22	60.74
205.33	164.06	161.79	169.34	180.35	170.42	7.30	60.77
208.00	164.09	162.01	170.68	181.72	171.42	7.72	60.97
208.11	164.18	163.45	174.95	186.05	174.82	8.83	61.59
209.57	164.24	166.17	177.88	189.08	177.72	8.95	DIFR
212.00	164.34	173.17	185.02	196.34	184.85	9.05	DIFR
213.00	164.38	176.05	187.96	199.32	187.79	9.09	DIFR
214.00	164.42	178.93	190.89	202.29	190.72	9.13	DIFR
215.00	164.46	181.81	193.83	205.27	193.65	9.16	DIFR
216.00	164.50	184.70	196.77	208.24	196.58	9.20	DIFR
217.00	164.54	187.59	199.70	211.21	199.52	9.23	DIFR
218.00	164.68	190.48	202.64	214.19	202.45	9.26	DIFR

RUN NO. 64

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA d: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 6 FT

OBST HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.65	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
129.65	160.07	159.41	162.24	166.40	162.65	2.75	38.34
131.00	160.16	159.47	162.36	166.68	162.81	2.84	38.77
131.01	160.16	159.47	162.37	166.69	162.81	2.94	38.77
132.49	160.26	159.54	162.49	166.97	162.97	2.93	39.21
134.00	160.36	159.60	162.62	167.25	163.12	3.01	39.66
135.53	160.46	159.66	162.74	167.53	163.27	3.10	40.11
136.00	160.49	159.68	162.78	167.61	163.32	3.12	40.25
137.09	160.56	159.72	162.87	167.80	163.43	3.18	40.57
138.68	160.66	159.79	163.00	168.08	163.58	3.27	41.04
140.29	160.76	159.85	163.13	168.36	163.74	3.36	41.52
141.00	160.80	159.87	163.18	168.48	163.80	3.39	41.73
141.92	160.86	159.91	163.26	168.64	163.89	3.44	42.00
143.59	160.96	159.98	163.39	168.91	164.05	3.52	42.50
145.28	161.06	160.05	163.52	169.18	164.20	3.60	43.00
146.00	161.10	160.08	163.58	169.29	164.27	3.64	43.21
146.99	161.16	160.12	163.66	169.45	164.36	3.69	43.51
148.74	161.26	160.19	163.79	169.73	164.52	3.77	44.02
150.51	161.37	160.26	163.93	170.00	164.68	3.85	44.55
151.00	161.39	160.28	163.97	170.08	164.72	3.87	44.69
152.32	161.47	160.33	164.07	170.30	164.85	3.94	45.08
154.15	161.57	160.40	164.21	170.61	165.02	4.03	45.62
156.00	161.68	160.47	164.36	170.91	165.19	4.13	46.17
156.01	161.68	160.47	164.36	170.92	165.19	4.13	46.17
157.90	161.78	160.54	164.51	171.22	165.36	4.22	46.73
159.82	161.89	160.61	164.65	171.54	165.54	4.32	47.30
161.00	161.95	160.66	164.75	171.73	165.65	4.38	47.65

161.77	161.99	160.69	164.81	171.86	165.72	4.42	47.88
163.75	162.10	160.76	164.96	172.18	165.90	4.52	48.47
165.76	162.20	160.84	165.12	172.50	166.09	4.61	49.06
166.00	162.22	160.85	165.14	172.54	166.11	4.63	49.13
167.81	162.31	160.91	165.28	172.82	166.27	4.71	49.67
169.89	162.42	160.99	165.44	173.15	166.46	4.81	50.28
171.00	162.47	161.03	165.53	173.32	166.56	4.86	50.61
171.99	162.52	161.07	165.61	173.48	166.65	4.91	50.90
172.54	162.55	161.09	165.65	173.58	166.70	4.94	51.07
174.14	162.63	161.43	166.77	174.84	167.62		51.54
176.00	162.72	161.73	168.08	176.32	168.67		52.09
176.31	162.74	161.78	168.30	176.57	168.85		52.18
178.52	162.85	162.04	169.86	178.36	170.07	5.38	52.84
181.00	162.97	162.57	171.61	180.36	171.54	6.95	53.57
182.16	163.02	163.08	172.43	181.35	172.30	7.14	DIFR
185.00	163.16	165.02	174.58	183.60	174.41	7.26	DIFR
186.00	163.20	165.71	175.33	184.39	175.16	7.30	DIFR
187.00	163.25	166.41	176.09	185.18	175.91	7.33	DIFR
188.00	163.30	167.11	176.85	185.97	176.65	7.37	DIFR
189.00	163.34	167.81	177.60	186.76	177.40	7.40	DIFR
190.00	163.39	168.47	178.36	187.55	178.14	7.45	DIFR
191.00	163.43	169.13	179.12	188.33	178.88	7.50	DIFR
192.00	163.48	169.81	179.88	189.13	179.62	7.55	DIFR
193.00	163.52	170.48	180.63	189.94	180.37	7.60	DIFR
194.00	163.57	171.16	181.39	190.75	181.12	7.65	DIFR
195.00	163.61	171.85	182.15	191.55	181.87	7.70	DIFR
196.00	163.66	172.54	182.91	192.36	182.62	7.75	DIFR
197.00	163.70	173.22	183.67	193.19	183.38	7.80	DIFR
198.00	163.75	173.91	184.43	194.06	184.15	7.88	DIFR
199.00	163.79	174.59	185.19	194.93	184.92	7.95	DIFR
200.00	163.83	175.28	185.95	195.80	185.70	8.02	DIFR
201.00	163.88	175.97	186.71	196.67	186.47	8.09	DIFR
202.00	163.92	176.67	187.47	197.53	187.24	8.15	DIFR
203.00	163.96	177.35	188.23	198.40	188.01	8.22	DIFR
204.00	164.00	178.01	189.00	199.24	188.76	8.29	DIFR

UN NO. 65

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.3 NMI

TERRAIN DELTA h: 150 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 18 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EXP DIST (NMI)
1.00	132.64	132.65	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.65
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.98	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.72	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.98	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.76	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.86	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.66	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.85	161.95	2.88	37.27
130.87	160.18	158.47	162.68	166.99	162.71	3.39	38.73
135.77	160.47	158.88	163.64	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.67	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.18
150.97	161.39	160.12	166.34	172.45	166.30	4.82	44.68
155.79	161.66	160.60	167.18	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.82	5.85	49.09
170.90	162.47	161.70	169.80	177.59	169.70	6.21	50.58
175.87	162.72	162.08	170.60	178.83	170.51	6.54	52.05
180.97	162.98	162.47	171.51	180.26	171.42	6.95	53.56
185.69	163.19	162.83	172.29	181.50	172.21	7.29	54.98
190.88	163.41	163.16	173.08	182.79	173.02	7.67	56.41
195.66	163.64	163.45	173.95	184.31	173.90	8.16	57.91
200.97	163.87	163.79	174.75	185.62	174.72	8.53	59.46
205.70	164.08	164.21	175.53	186.65	175.44	8.73	60.88
210.84	164.29	164.67	176.35	187.56	176.20	8.94	62.40
211.04	164.30	164.69	176.38	187.60	176.23	8.96	62.46
213.22	164.39	164.88	176.72	188.03	176.56	9.04	63.11
214.40	164.44	164.99	176.90	188.27	176.73	9.10	63.45
215.17	164.47	165.06	177.03	188.44	176.85	9.14	63.68
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.86
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.86
216.00	164.50	165.13	177.20	188.67	177.01	9.20	63.93
216.13	164.51	165.14	177.21	188.69	177.03	9.20	63.97
216.46	164.52	165.17	177.26	188.75	177.07	9.21	64.07

216.73	164.63	165.20	177.30	188.80	177.11	9.22	64.16
216.96	164.64	165.22	177.33	188.84	177.14	9.23	64.21
217.87	164.67	170.06	182.21	193.75	182.02	9.26	64.48
217.96	164.68	170.57	182.72	194.27	182.53	9.26	DIFR
220.00	164.66	178.39	190.64	202.26	190.44	9.32	DIFR
221.00	164.70	182.20	194.62	208.16	194.31	9.36	DIFR
222.00	164.74	186.01	198.40	210.07	198.17	9.40	DIFR
223.00	164.78	189.83	202.28	213.97	202.04	9.43	DIFR
224.00	164.82	193.61	206.02	217.74	205.78	9.47	SCAT
225.00	164.85	195.16	207.72	219.47	207.46	9.50	SCAT

RUN NO. 66

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.21 NMI

TERRAIN DELTA L: 250 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHZ

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 37 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	RFP DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.13	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
129.65	160.07	159.41	162.24	166.40	162.65	2.75	38.34
131.00	160.16	159.47	162.36	166.66	162.81	2.84	38.77
131.01	160.16	159.47	162.37	166.69	162.81	2.84	38.77
132.49	160.26	159.54	162.49	166.97	162.97	2.93	39.21
134.00	160.36	159.60	162.62	167.25	163.12	3.01	39.66
135.63	160.46	159.66	162.74	167.53	163.27	3.10	40.11
136.00	160.49	159.68	162.78	167.61	163.32	3.12	40.25
137.09	160.58	159.72	162.87	167.80	163.43	3.18	40.57
138.68	160.66	159.79	163.00	168.08	163.58	3.27	41.04
140.29	160.76	159.85	163.13	168.36	163.74	3.36	41.52
141.00	160.80	159.87	163.18	168.48	163.80	3.39	41.73
141.92	160.86	159.91	163.26	168.64	163.89	3.44	42.00
143.59	160.96	159.98	163.39	168.91	164.05	3.52	42.50
145.28	161.06	160.05	163.62	169.18	164.20	3.60	43.00
146.00	161.10	160.08	163.68	169.29	164.27	3.64	43.21
146.99	161.16	160.12	163.66	169.45	164.36	3.69	43.51
148.74	161.26	160.19	163.79	169.73	164.52	3.77	44.02
150.51	161.37	160.26	163.93	170.00	164.68	3.85	44.55
151.00	161.39	160.28	163.97	170.08	164.72	3.87	44.69
152.32	161.47	160.33	164.07	170.30	164.85	3.94	45.08
154.15	161.57	160.40	164.21	170.61	165.02	4.03	45.62
156.00	161.68	160.47	164.36	170.91	165.19	4.13	46.17
156.01	161.68	160.47	164.36	170.92	165.19	4.13	46.17
157.90	161.76	160.54	164.51	171.22	165.36	4.22	46.73
159.82	161.89	160.61	164.65	171.54	165.54	4.32	47.30
161.00	161.95	160.66	164.75	171.73	165.65	4.38	47.65

161.77	161.99	160.89	164.81	171.86	165.72	4.42	47.88
163.75	162.10	160.76	164.96	172.18	165.90	4.52	48.47
165.76	162.20	160.84	165.12	172.50	166.09	4.61	49.06
166.00	162.22	160.86	165.14	172.64	166.11	4.63	49.13
167.81	162.31	160.91	165.28	172.82	166.27	4.71	49.67
169.89	162.42	160.99	165.44	173.15	166.46	4.81	50.28
171.00	162.47	161.03	165.63	173.33	166.56	4.86	50.61
171.99	162.52	161.07	165.61	173.48	166.65	4.91	50.90
174.14	162.63	161.15	165.78	173.85	166.85	5.03	51.54
176.00	162.72	161.22	165.93	174.17	167.03	5.13	52.09
176.31	162.74	161.23	165.95	174.22	167.06	5.14	52.18
176.52	162.85	161.30	166.13	174.63	167.28	5.28	52.84
180.76	162.95	161.38	166.31	175.04	167.50	5.41	53.50
181.00	162.97	161.39	166.33	175.08	167.52	5.42	53.57
183.04	163.06	161.46	166.50	175.45	167.72	5.54	54.17
185.35	163.17	161.54	166.69	175.87	167.93	5.68	54.86
186.00	163.20	161.56	166.74	175.98	168.01	5.71	55.05
187.70	163.28	161.62	166.88	176.29	168.17	5.81	55.55
190.08	163.39	161.65	167.08	176.73	168.40	5.97	56.26
191.00	163.43	161.65	167.16	176.91	168.48	6.05	56.53
192.51	163.50	161.65	167.28	177.23	168.63	6.17	56.98
194.97	163.61	161.64	167.49	177.76	168.87	6.38	57.71
195.99	163.66	161.62	167.58	178.00	168.97	6.49	58.01
197.48	163.72	161.58	167.71	178.37	169.12	6.65	58.45
200.04	163.83	161.68	167.93	178.76	169.36	6.76	59.20
201.00	163.88	161.74	168.01	178.88	169.45	6.78	59.49
202.65	163.95	161.84	168.15	179.08	169.59	6.82	59.98
205.33	164.06	162.01	168.39	179.41	169.84	6.88	60.77
206.00	164.09	162.05	168.46	179.49	169.90	6.90	60.97
208.11	164.18	162.17	168.64	179.74	170.08	6.95	61.59
211.00	164.30	162.25	168.79	180.00	170.25	7.02	62.45
211.00	164.30	162.25	168.79	180.00	170.25	7.02	62.45
211.06	164.30	162.33	169.02	180.23	170.43	7.08	62.47
213.22	164.39	165.43	177.26	188.58	177.10	9.04	63.10
214.40	164.44	169.89	181.80	193.17	181.63	9.10	63.45
214.50	164.44	170.22	182.21	193.63	182.03	9.14	DIFR
217.00	164.54	178.92	191.04	202.55	190.85	9.23	DIFR
218.00	164.58	182.41	194.57	206.12	194.38	9.26	DIFR
219.00	164.62	185.91	198.11	209.69	197.92	9.29	DIFR
220.00	164.66	189.40	201.65	213.26	201.45	9.32	DIFR
221.00	164.70	192.87	205.19	216.83	204.98	9.36	DIFR
222.00	164.74	195.84	208.23	219.89	208.00	9.40	SCAT

RUN NO. 67

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 54 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST INT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	30%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.09	136.25	136.42	136.25	0.13	0.30
1.67	136.22	136.33	139.35	140.51	139.39	0.85	1.68
9.37	142.02	140.37	142.21	144.53	142.36	1.63	2.73
16.27	145.52	143.13	145.89	149.62	146.16	2.55	4.54
18.75	147.14	144.50	147.47	151.93	147.94	2.93	5.57
24.04	149.17	146.29	149.59	154.77	150.18	3.34	7.15
30.74	151.22	148.20	151.76	157.53	152.45	3.68	9.13
35.94	152.54	149.51	153.18	159.24	153.92	3.84	10.68
40.98	153.66	150.63	154.39	160.68	155.18	3.97	12.18
45.84	154.62	151.62	155.44	161.90	156.26	4.06	13.62
60.69	155.48	152.52	156.39	163.00	157.25	4.14	15.06
55.99	156.33	153.44	157.35	164.08	158.23	4.21	16.64
60.60	157.00	154.16	158.11	164.93	159.00	4.26	17.98
65.74	157.72	154.94	158.94	165.82	159.84	4.30	19.54
70.82	158.36	155.65	159.69	166.63	160.59	4.34	21.04
75.93	158.96	156.33	160.41	167.39	161.32	4.37	22.57
80.77	159.50	156.95	161.06	168.08	161.97	4.40	24.00
85.87	160.03	157.57	161.71	168.78	162.62	4.43	25.52
90.69	160.50	158.14	162.31	169.41	163.22	4.46	26.95
95.98	160.99	158.73	162.94	170.10	163.86	4.49	28.52
100.64	161.40	159.23	163.49	170.70	164.41	4.53	29.91
105.64	161.82	159.76	164.07	171.34	164.99	4.58	31.39
110.98	162.25	160.28	164.68	172.05	165.61	4.65	32.98
116.82	162.62	160.67	165.26	172.76	166.17	4.77	34.42
121.00	163.00	160.89	165.88	173.62	166.74	5.02	35.96
126.92	163.34	160.99	166.41	174.40	167.21	5.27	37.42
130.87	163.68	161.49	167.27	175.47	168.03	5.49	38.89
135.77	163.99	162.16	168.31	176.67	169.01	5.81	40.35
140.94	164.32	162.85	169.30	177.80	169.94	5.86	41.88
145.89	164.62	163.50	170.28	178.87	170.85	6.02	43.35
150.97	164.91	164.15	171.25	179.93	171.74	6.17	44.86
152.32	164.99	164.24	171.17	180.84	172.71	6.55	45.26
153.63	165.06	164.89	171.08	181.08	173.08	6.23	45.62
154.78	165.13	165.56	171.29	181.34	173.34	6.32	45.99
156.00	165.20	165.70	171.58	181.58	173.58	6.42	46.35
156.01	165.20	165.65	171.53	181.53	173.53	6.42	46.36
157.26	165.27	165.43	171.62	181.75	173.75	6.83	46.73
158.54	165.31	165.83	171.75	181.99	173.99	6.61	47.11
159.82	165.41	166.22	171.46	182.81	174.50	6.70	47.49
161.00	165.47	166.30	171.64	183.09	174.68	6.78	47.84
161.12	165.48	166.34	171.69	183.14	174.73	6.79	47.88
162.43	165.55	166.63	171.88	183.76	174.76	6.12	48.27
163.75	165.62	166.98	172.25	184.93	175.26	6.96	48.66
165.09	165.69	167.99	172.67	185.46	175.71	6.04	49.06
166.00	165.74	168.62	173.40	186.27	176.43	6.11	49.33
166.44	165.76	169.67	173.51	186.41	176.53	6.15	49.46
167.81	165.83	169.84	173.63	186.66	176.66	6.42	49.87
169.19	165.90	169.65	173.77	186.94	176.79	6.36	50.28
170.69	165.97	170.64	173.90	187.20	176.91	6.47	50.69
171.00	165.99	169.41	173.71	186.05	177.72	6.50	50.81
171.99	166.05	169.67	173.65	186.50	178.07	6.57	51.11
173.42	166.12	169.05	173.19	186.96	178.56	6.79	51.53

174.86	166.19	159.72	168.34	177.10	168.39	6.79	51.56
176.00	166.24	172.21	180.02	189.80	180.97	6.67	52.30
176.31	166.26	191.32	200.06	208.98	200.12	6.90	52.39
177.78	166.33	159.74	168.64	177.71	168.69	7.02	52.83
179.26	166.40	159.26	165.79	175.02	166.63	6.19	53.27
180.76	166.48	150.71	168.95	178.38	169.01	7.29	53.72
181.00	166.49	160.92	170.20	179.66	170.26	7.32	53.79
182.28	166.55	191.59	201.02	210.63	201.08	7.44	54.17
183.81	166.62	159.76	169.28	179.08	169.37	7.55	54.62
185.35	166.69	159.30	166.44	176.43	167.33	6.73	55.08
186.00	166.72	159.39	166.98	177.07	167.76	6.93	55.27
186.91	166.77	159.78	169.62	179.86	169.75	7.84	55.54
188.49	166.84	191.35	201.45	211.88	201.55	8.02	56.01
190.08	166.91	159.91	169.98	180.45	170.10	8.03	56.49
191.00	166.95	159.57	167.59	178.09	168.36	7.26	56.76
191.70	166.99	159.51	167.16	177.69	168.06	7.13	56.97
193.33	167.06	180.10	170.36	180.96	170.47	8.15	57.45
194.97	167.13	190.08	200.71	211.38	200.72	8.32	57.94
196.00	167.18	163.62	174.33	185.04	174.33	8.37	58.24
196.64	167.21	160.31	170.77	181.51	170.86	8.28	58.43
198.33	167.28	159.98	167.98	178.78	168.86	7.30	58.94
200.04	167.36	160.55	171.22	182.08	171.28	8.41	59.44
201.00	167.40	166.63	177.64	188.53	177.60	8.56	59.73
201.77	167.43	186.63	197.68	208.60	197.64	8.58	59.96
203.54	167.51	160.85	171.73	182.71	171.76	8.54	60.48
205.33	167.58	160.62	169.03	180.07	169.85	7.62	61.02
206.00	167.61	160.76	169.51	180.57	170.23	7.75	61.22
207.17	167.66	161.25	172.36	183.46	172.36	8.67	61.56
209.07	167.74	179.33	190.95	202.10	190.80	8.90	62.13
211.00	167.82	161.92	173.45	184.70	173.36	8.90	62.70
211.06	167.82	161.92	173.25	184.50	173.23	8.82	62.72
213.22	167.91	162.12	171.01	182.36	171.78	7.93	63.36
214.82	167.97	162.82	172.83	184.26	173.27	8.38	63.84
215.72	168.01	163.34	174.76	186.26	174.79	8.95	64.11
216.00	168.02	163.50	175.44	186.94	175.30	9.16	64.19
216.31	168.03	164.11	176.23	187.75	176.04	9.23	64.28
216.73	168.05	165.16	177.30	188.83	177.11	9.25	64.41
217.06	168.06	165.90	178.06	189.60	177.87	9.26	64.50
217.31	168.07	166.41	178.58	190.13	178.39	9.27	64.58
217.53	168.08	166.76	178.94	190.50	178.75	9.27	64.64
217.70	168.09	167.00	179.18	190.75	178.99	9.28	64.69
217.80	168.09	167.10	179.29	190.86	179.10	9.28	64.72
218.42	168.12	169.20	181.42	193.01	181.22	9.30	64.91
220.84	168.21	177.28	189.65	201.31	189.43	9.39	DIFR
223.00	168.30	186.73	199.23	210.95	198.99	9.47	DIFR
224.00	168.34	191.10	203.67	215.41	203.41	9.50	DIFR
225.00	168.38	195.47	208.10	219.86	207.83	9.53	DIFR
226.00	168.41	199.54	212.22	224.02	211.95	9.57	SCAT
227.00	168.45	201.58	214.32	226.16	214.04	9.61	SCAT
228.00	168.49	203.36	216.16	228.05	215.88	9.64	SCAT

RUN NO. 68

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.93 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED 10 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREQ SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.25	139.20	139.35	139.51	139.35	0.12	1.68
9.37	142.07	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.66	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.69	155.48	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.13	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.13	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.70	162.31	0.32	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.70	28.62
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.39
110.98	162.25	162.77	164.68	166.99	164.81	1.65	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.42
121.00	163.00	162.70	165.68	169.47	166.01	2.65	35.96
125.92	163.34	162.63	166.41	170.64	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
152.32	164.99	164.04	168.96	175.64	169.51	4.55	45.26
153.53	165.06	164.09	169.08	175.87	169.64	4.62	45.62
154.76	165.13	164.14	169.20	176.10	169.77	4.69	45.99
156.00	165.20	164.19	169.32	176.33	169.91	4.76	46.36
156.01	165.20	164.19	169.32	176.33	169.91	4.76	46.36
157.26	165.27	164.25	169.44	176.57	170.04	4.83	46.73
158.54	165.34	164.30	169.56	176.80	170.18	4.90	47.11
159.82	165.41	164.36	169.69	177.04	170.32	4.98	47.49
161.00	165.47	164.41	169.80	177.25	170.44	5.04	47.84
161.12	165.48	164.41	169.81	177.27	170.46	5.05	47.88
162.43	165.55	164.47	169.94	177.51	170.60	5.12	48.27
163.75	165.62	164.52	170.07	177.76	170.74	5.19	48.66
165.09	165.69	164.58	170.21	178.00	170.88	5.27	49.06
166.00	165.74	164.62	170.30	178.16	170.98	5.32	49.33
166.44	165.76	164.64	170.34	178.24	171.03	5.34	49.46
167.31	165.83	164.69	170.48	178.51	171.18	5.42	49.87
169.19	165.90	164.74	170.62	178.78	171.33	5.51	50.28
170.59	165.97	164.80	170.76	179.06	171.49	5.60	50.69
171.00	165.99	164.81	170.80	179.14	171.53	5.62	50.81
171.99	166.05	164.85	170.90	179.35	171.65	5.69	51.11
173.42	166.12	164.91	171.05	179.55	171.82	5.79	51.53

174.86	166.19	164.97	171.20	179.96	171.29	5.89	51.96
176.00	166.24	165.01	171.31	180.20	172.12	5.96	52.30
178.31	166.26	165.02	171.35	180.26	172.16	5.98	52.39
177.78	166.33	165.08	171.50	180.57	172.33	6.08	52.83
179.26	166.40	165.13	171.66	180.89	172.50	6.19	53.27
180.76	166.48	165.14	171.82	181.24	172.67	6.32	53.72
181.00	166.49	165.14	171.84	181.29	172.70	6.34	53.79
182.28	166.55	165.15	171.98	181.59	172.85	6.45	54.17
183.81	166.62	165.16	172.14	181.94	173.02	6.59	54.62
185.35	166.69	165.17	172.31	182.30	173.20	6.73	55.08
186.00	166.72	165.18	172.38	182.47	173.28	6.80	55.27
186.91	166.77	165.15	172.48	182.72	173.39	6.90	55.54
188.49	166.84	165.17	172.66	183.08	173.57	7.03	56.01
190.08	166.91	165.27	172.84	183.30	173.74	7.06	56.49
191.00	166.95	165.32	172.94	183.43	173.84	7.11	56.76
191.70	166.99	165.36	173.02	183.54	173.91	7.13	56.97
193.33	167.06	165.46	173.20	183.80	174.10	7.20	57.45
194.97	167.13	165.57	173.40	184.07	174.28	7.26	57.94
196.00	167.18	165.63	173.52	184.23	174.40	7.30	58.24
196.64	167.21	165.66	173.58	184.32	174.46	7.32	58.43
198.33	167.28	165.75	173.76	184.56	174.33	7.37	58.94
200.04	167.36	165.85	173.98	184.85	174.83	7.45	59.44
201.00	167.40	165.91	174.14	185.04	174.97	7.50	59.73
201.77	167.43	165.95	174.26	185.18	175.07	7.54	59.96
203.54	167.51	166.00	174.40	185.38	175.21	7.59	60.48
205.33	167.58	166.00	174.41	185.45	175.23	7.62	61.02
206.00	167.61	166.01	174.49	185.54	175.29	7.65	61.22
207.17	167.66	166.04	174.84	185.93	175.55	7.79	61.56
209.07	167.74	166.06	175.68	186.83	176.16	8.12	62.13
211.00	167.82	166.03	175.32	186.56	175.87	8.11	62.70
211.06	167.82	166.82	175.28	186.53	175.84	8.10	62.72
213.22	167.91	166.40	174.30	186.65	175.06	7.93	63.36
214.82	167.97	166.28	174.85	186.28	175.43	8.21	63.84
215.72	168.01	166.30	175.71	187.21	176.05	8.56	64.11
216.00	168.02	166.31	176.03	187.54	176.28	8.68	64.19
216.31	168.03	166.33	176.41	187.92	176.54	8.83	64.29
216.73	168.05	166.36	176.93	188.46	176.92	9.02	64.41
217.06	168.06	166.39	177.32	188.86	177.20	9.17	64.50
217.23	168.07	166.41	177.51	189.06	177.34	9.24	64.55
217.31	168.07	166.69	177.86	189.41	177.66	9.27	64.58
217.53	168.08	166.51	178.69	190.25	178.50	9.27	64.64
217.70	168.09	167.21	179.39	190.96	179.20	9.28	64.69
218.42	168.12	170.04	182.25	193.84	182.06	9.30	64.91
220.25	168.19	177.17	189.50	201.14	189.29	9.36	DIFR
223.00	168.30	189.23	201.74	213.46	201.49	9.47	DIFR
224.00	168.34	193.62	206.19	217.93	205.93	9.50	DIFR
225.00	168.38	198.01	210.64	222.40	210.37	9.53	DIFR
226.00	168.41	200.92	213.61	225.40	213.33	9.57	SCAT
227.00	168.45	202.78	215.52	227.36	215.24	9.61	SCAT
228.00	168.49	204.43	217.22	229.11	216.94	9.64	SCAT

RUN NO. 69

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.22	139.20	139.35	139.51	139.35	0.12	1.68
9.37	142.02	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.68	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.69	155.48	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.13	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.13	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.73	162.31	0.32	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.70	28.52
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.39
110.98	162.25	162.77	164.68	166.99	164.81	.85	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.42
121.00	163.00	162.70	165.88	169.47	166.01	2.65	35.96
125.92	163.34	162.53	166.41	170.64	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
152.32	164.99	164.04	168.96	175.64	169.51	4.55	45.26
153.53	165.06	164.09	169.06	175.87	169.64	4.62	45.62
154.76	165.13	164.14	169.20	176.10	169.77	4.69	45.99
156.00	165.20	164.19	169.32	176.33	169.91	4.76	46.36
156.01	165.20	164.19	169.32	176.33	169.91	4.76	46.36
157.26	165.27	164.25	169.44	176.57	170.04	4.83	46.73
158.54	165.34	164.30	169.56	176.80	170.18	4.90	47.11
159.82	165.41	164.36	169.69	177.04	170.32	4.98	47.49
161.00	165.47	164.41	169.80	177.25	170.44	5.04	47.84
161.12	165.48	164.41	169.81	177.27	170.46	5.05	47.88
162.43	165.55	164.47	169.94	177.51	170.60	5.12	48.27
163.75	165.62	164.52	170.07	177.76	170.74	5.19	48.66
165.09	165.69	164.58	170.21	178.00	170.88	5.27	49.06
166.00	165.74	164.62	170.30	178.16	170.98	5.32	49.33
166.44	165.76	164.54	170.34	178.24	171.03	5.34	49.46
167.81	165.83	164.69	170.48	178.51	171.18	5.42	49.87
169.19	165.90	164.74	170.62	178.78	171.33	5.51	50.28
170.59	165.97	164.80	170.76	179.06	171.49	5.60	50.69
171.00	165.99	164.81	170.80	179.14	171.53	5.62	50.81
171.99	166.05	164.85	170.90	179.35	171.65	5.69	51.11
173.42	166.12	164.91	171.05	179.65	171.82	5.79	51.53

174.86	166.19	164.97	171.20	179.96	171.99	5.89	51.96
176.00	166.24	165.01	171.31	180.20	172.12	5.96	52.30
176.31	166.26	165.02	171.35	180.26	172.16	5.98	52.39
177.78	166.33	165.08	171.50	180.57	172.33	6.08	52.83
179.26	166.40	165.13	171.66	180.89	172.50	6.19	53.27
180.76	166.48	165.14	171.82	181.24	172.67	6.32	53.72
181.00	166.49	165.14	171.84	181.29	172.70	6.34	53.79
182.28	166.55	165.15	171.98	181.59	172.85	6.45	54.17
183.81	166.62	165.16	172.14	181.94	173.02	6.59	54.62
185.35	166.69	165.17	172.31	182.30	173.20	6.73	55.08
186.00	166.72	165.16	172.38	182.47	173.28	6.80	55.27
186.91	166.77	165.15	172.48	182.72	173.30	6.90	55.54
188.49	166.84	165.17	172.66	183.08	173.57	7.03	56.01
190.08	166.91	165.27	172.84	183.30	173.74	7.08	56.49
191.00	166.95	165.32	172.94	183.43	173.84	7.11	56.76
191.70	166.99	165.36	173.02	183.54	173.91	7.13	56.97
193.33	167.06	165.46	173.20	183.80	174.10	7.20	57.45
194.97	167.13	165.57	173.40	184.07	174.28	7.26	57.94
196.00	167.18	165.63	173.52	184.23	174.40	7.30	58.24
196.64	167.21	165.66	173.58	184.32	174.46	7.32	58.43
198.33	167.28	165.75	173.76	184.56	174.63	7.37	58.94
200.04	167.36	165.85	173.98	184.85	174.83	7.45	59.44
201.00	167.40	165.91	174.14	185.04	174.97	7.50	59.73
201.77	167.43	165.95	174.26	185.18	175.07	7.54	59.96
203.54	167.51	166.00	174.40	185.38	175.21	7.59	60.48
205.83	167.60	166.01	174.46	185.51	175.27	7.64	61.17
206.00	167.61	166.08	174.89	185.95	175.59	7.78	61.22
208.57	167.76	172.40	184.16	195.41	184.00	8.99	DIFR
212.00	167.86	179.84	191.75	203.10	191.57	9.08	DIFR
213.00	167.90	182.91	194.86	206.26	194.69	9.12	DIFR
214.00	167.94	185.97	197.98	209.41	197.80	9.16	DIFR
215.00	167.98	189.04	201.10	212.57	200.92	9.19	DIFR
216.00	168.02	192.11	204.22	215.72	204.03	9.22	DIFR
217.00	168.06	195.18	207.34	218.88	207.15	9.26	DIFR
218.00	168.10	198.26	210.46	222.03	210.26	9.29	DIFR

RUN NO. 70

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.22	139.20	139.35	139.51	139.35	0.12	1.69
9.37	142.02	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.66	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.68	155.48	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.13	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.13	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.73	162.31	0.32	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.70	28.52
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.30
110.98	162.25	162.77	164.68	166.99	164.81	1.65	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.42
121.00	163.00	162.70	165.88	169.47	166.01	2.65	35.96
125.92	163.34	162.53	166.41	170.64	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
152.32	164.99	164.04	168.96	175.64	169.51	4.55	45.26
153.53	165.06	164.09	169.08	175.87	169.64	4.62	45.62
154.76	165.13	164.14	169.20	176.10	169.77	4.69	45.99
156.00	165.20	164.19	169.32	176.33	169.91	4.76	46.36
156.01	165.20	164.19	169.32	176.33	169.91	4.76	46.36
157.26	165.27	164.25	169.44	176.57	170.04	4.83	46.73
158.54	165.34	164.30	169.56	176.80	170.18	4.90	47.11
159.82	165.41	164.36	169.69	177.04	170.32	4.98	47.49
161.00	165.47	164.41	169.80	177.25	170.44	5.04	47.84
161.12	165.48	164.41	169.81	177.27	170.46	5.05	47.88
162.43	165.55	164.47	169.94	177.51	170.60	5.12	48.27
163.75	165.62	164.52	170.07	177.76	170.74	5.19	48.66
165.09	165.69	164.58	170.21	178.00	170.88	5.27	49.06
166.00	165.74	164.62	170.30	178.16	170.98	5.32	49.33
166.44	165.76	164.64	170.34	178.24	171.03	5.34	49.46
167.81	165.83	164.69	170.48	178.51	171.18	5.42	49.87
169.19	165.90	164.74	170.62	178.78	171.33	5.51	50.28
170.59	165.97	164.80	170.76	179.06	171.49	5.60	50.69
171.00	165.99	164.81	170.80	179.14	171.53	5.62	50.81
171.99	166.05	164.85	170.90	179.35	171.65	5.69	51.11
173.42	166.12	164.91	171.05	179.65	171.82	5.79	51.53

174.27	166.16	164.94	171.14	179.83	171.92	5.85	51.79
174.86	166.19	165.05	171.64	190.40	172.32	6.02	51.96
176.00	166.24	165.24	172.63	181.51	173.09	6.37	52.30
176.31	166.26	165.29	172.90	181.81	173.30	6.46	52.39
177.78	166.33	165.48	174.17	183.24	174.29	6.94	52.83
181.00	166.49	167.68	176.96	186.41	177.01	7.32	53.79
182.16	166.54	168.38	177.97	187.58	177.98	7.50	DIFR
185.00	166.68	170.52	180.30	190.01	180.28	7.61	DIFR
186.00	166.72	171.28	181.12	190.86	181.09	7.65	DIFR
187.00	166.77	172.05	181.95	191.72	181.91	7.68	DIFR
188.00	166.82	172.82	182.77	192.57	182.72	7.72	DIFR
189.00	166.86	173.55	183.59	193.42	183.53	7.76	DIFR
190.00	166.91	174.29	184.42	194.27	184.33	7.81	DIFR
191.00	166.95	175.02	185.24	195.13	185.14	7.86	DIFR
192.00	167.00	175.77	186.07	196.01	185.96	7.91	DIFR
193.00	167.04	176.52	186.90	196.88	186.77	7.95	DIFR
194.00	167.09	177.27	187.72	197.75	187.59	8.00	DIFR
195.00	167.13	178.03	188.55	198.62	188.41	8.04	DIFR
196.00	167.18	178.79	189.38	199.49	189.23	8.09	DIFR
197.00	167.22	179.55	190.21	200.38	190.06	8.14	DIFR
198.00	167.27	180.30	191.04	201.29	190.89	8.20	DIFR
199.00	167.31	181.05	191.87	202.21	191.72	8.27	DIFR
200.00	167.35	181.81	192.70	203.12	192.55	8.33	DIFR
201.00	167.40	182.57	193.53	204.03	193.39	8.39	DIFR
202.00	167.44	183.33	194.36	204.94	194.22	8.44	DIFR
203.00	167.48	184.05	195.20	205.85	195.05	8.52	DIFR
204.00	167.53	184.79	196.03	206.76	195.87	8.58	DIFR

RUN NO. 71

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EPP DIST (NMI)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.24	139.63	140.04	139.64	0.31	1.23
10.69	141.47	140.58	141.55	142.64	141.59	0.81	2.33
13.70	142.66	141.41	142.76	144.36	142.84	1.15	2.98
17.90	144.23	142.54	144.35	146.63	144.50	1.60	3.89
24.44	146.36	144.15	146.51	149.75	146.79	2.20	5.32
29.56	147.78	145.29	147.96	151.80	148.33	2.56	6.43
32.81	148.59	145.95	148.79	152.97	149.21	2.76	7.14
36.76	149.49	146.71	149.71	154.23	150.18	2.96	8.00
41.68	150.50	147.58	150.76	155.65	151.29	3.18	9.07
48.00	151.66	148.60	151.95	157.25	152.56	3.41	10.45
55.93	152.93	149.75	153.27	158.95	153.95	3.63	12.17
60.40	153.58	150.37	153.95	159.79	154.65	3.72	13.14
65.60	154.27	151.03	154.68	160.68	155.42	3.81	14.27
70.80	154.92	151.66	155.36	161.51	156.13	3.89	15.41
75.89	155.51	152.24	155.99	162.26	156.78	3.96	16.51
80.70	156.03	152.76	156.55	162.92	157.35	4.01	17.56
85.78	156.55	153.29	157.11	163.58	157.93	4.07	18.67
90.70	157.03	153.77	157.62	164.18	158.46	4.12	19.74
95.52	157.47	154.22	158.10	164.73	158.96	4.16	20.79
100.83	157.94	154.70	158.61	165.32	159.48	4.20	21.94
105.58	158.33	155.11	159.04	165.81	159.93	4.23	22.98
110.31	158.71	155.50	159.46	166.27	160.35	4.26	24.01
115.43	159.10	155.90	159.89	166.75	160.79	4.29	25.12
120.96	159.50	156.32	160.34	167.24	161.24	4.32	26.32
125.78	159.84	156.68	160.72	167.65	161.62	4.34	27.37
130.86	160.18	157.05	161.11	168.08	162.02	4.36	28.48
135.82	160.50	157.39	161.48	168.48	162.39	4.38	29.55
140.72	160.81	157.73	161.84	168.86	162.75	4.40	30.62
145.93	161.12	158.08	162.21	169.26	163.12	4.42	31.76
150.75	161.40	158.39	162.54	169.62	163.46	4.44	32.80
155.66	161.68	158.71	162.88	169.98	163.79	4.46	33.87
160.83	161.96	159.03	163.22	170.35	164.14	4.48	35.00
165.81	162.23	159.33	163.55	170.70	164.47	4.49	36.08
170.61	162.47	159.61	163.86	171.05	164.78	4.52	37.13
175.63	162.72	159.89	164.19	171.42	165.10	4.56	38.22
180.88	162.98	160.14	164.53	171.83	165.44	4.62	39.36
185.87	163.21	160.28	164.86	172.27	165.74	4.73	40.45
190.85	163.44	160.24	165.19	172.80	166.02	4.95	41.53
195.99	163.67	160.26	165.81	173.73	166.55	5.29	42.65
200.92	163.89	160.88	166.96	175.08	167.60	5.57	43.72
206.00	164.10	161.40	167.90	176.15	168.45	5.78	44.83
206.30	164.12	157.62	160.45	165.35	161.10	3.06	44.89
208.06	164.19	158.17	163.55	168.63	163.46	4.08	45.28
209.84	164.26	183.77	189.50	194.74	189.34	4.29	45.66
211.00	164.31	181.16	167.02	172.37	166.26	4.38	45.91
211.65	164.34	158.26	163.74	169.14	163.72	4.25	46.06
213.47	164.41	157.75	160.83	166.39	161.61	3.42	46.45
215.32	164.49	158.35	163.94	169.65	163.98	4.41	46.86
216.00	164.52	160.99	167.35	173.12	167.16	4.74	47.00
217.19	164.56	184.24	190.72	196.57	190.52	4.82	47.26
219.08	164.64	158.43	164.14	170.14	164.23	4.57	47.67

220.99	164.71	157.89	161.23	167.38	162.11	3.77	48.09
221.00	164.71	157.89	161.24	167.38	162.11	3.77	48.09
222.92	164.79	158.52	164.34	170.63	164.49	4.73	48.61
224.87	164.86	184.97	192.03	198.45	191.83	5.27	48.93
226.00	164.91	161.57	168.74	175.23	168.53	5.34	49.18
226.85	164.94	158.61	164.56	171.11	164.75	4.88	49.36
228.84	165.02	158.08	161.66	168.34	162.62	4.03	49.60
230.86	165.09	158.71	164.78	171.59	165.01	6.03	50.24
231.00	165.10	158.76	165.27	172.09	165.37	6.21	50.27
232.91	165.17	185.70	193.44	200.38	193.19	5.74	50.68
234.97	165.24	158.80	165.01	172.09	165.28	6.19	51.13
236.00	165.28	168.42	162.76	169.92	163.64	4.64	51.35
237.06	165.32	158.23	162.12	169.35	163.16	4.42	51.59
239.17	165.40	168.90	165.25	172.63	165.57	6.37	52.05
241.00	165.46	172.90	181.20	188.72	180.95	6.18	52.44
241.30	165.47	186.63	194.96	202.50	194.72	6.20	52.51
243.46	165.55	169.00	165.49	173.19	165.87	6.55	52.98
245.64	165.63	158.41	162.61	170.47	163.75	4.79	53.45
246.00	165.64	158.45	162.71	170.59	163.84	4.82	53.63
247.85	165.71	159.10	165.75	173.76	166.18	5.74	53.93
250.08	165.78	187.52	198.53	204.70	196.27	6.71	54.42
251.00	165.82	163.82	172.89	181.12	172.63	6.76	54.62
252.33	165.86	169.20	166.02	174.34	166.49	6.92	54.91
254.61	165.94	158.61	163.15	171.62	164.38	6.17	55.40
256.00	165.99	158.94	164.28	172.82	165.27	6.48	55.71
256.91	166.02	159.31	166.31	174.93	166.81	6.11	55.90
259.23	166.10	188.40	198.03	206.80	197.76	7.19	56.41
261.00	166.15	159.62	168.65	177.57	168.62	7.01	56.78
261.59	166.17	159.42	166.61	175.58	167.16	6.33	56.92
263.96	166.25	158.82	163.75	172.94	166.08	6.61	57.44
266.00	166.32	159.37	165.97	175.35	166.84	6.27	57.88
266.37	166.33	169.53	166.62	176.33	167.55	6.58	57.96
268.80	166.41	188.67	198.97	208.60	198.76	7.79	58.49
271.00	166.48	159.74	168.01	177.83	168.49	7.08	58.97
271.25	166.49	169.65	167.26	177.11	167.96	6.84	59.03
273.74	166.57	169.00	164.43	174.52	166.88	6.16	59.57
276.00	166.64	169.58	166.97	177.29	167.88	6.95	60.06
276.25	166.65	169.68	167.62	177.97	168.38	7.17	60.11
278.80	166.73	186.90	197.96	208.57	197.82	8.47	60.67
280.99	166.79	169.66	169.14	180.04	169.64	7.90	61.16
281.38	166.81	169.67	188.04	179.00	188.85	7.67	61.23
284.00	166.89	169.02	165.26	176.36	166.77	6.67	61.80
286.00	166.95	169.63	167.07	178.22	168.23	7.31	62.24
286.66	166.97	169.66	168.63	179.70	169.24	7.74	62.36
289.39	167.05	179.88	191.64	202.91	191.49	8.99	62.97
291.00	167.10	161.33	173.16	184.48	173.01	9.04	63.32
292.20	167.13	160.51	169.25	180.61	170.07	7.87	63.69
295.18	167.22	160.33	166.66	178.31	168.40	7.12	64.23
296.00	167.25	160.57	167.25	178.73	168.76	7.10	64.41
297.34	167.28	161.20	168.67	180.19	169.93	7.48	64.70
298.52	167.32	161.89	170.68	182.23	171.54	7.97	64.98
299.30	167.34	162.36	172.29	183.87	172.80	8.41	65.13
299.85	167.36	162.67	173.49	185.11	173.74	8.77	65.25
300.26	167.37	162.91	174.36	186.99	174.42	9.02	65.34
300.59	167.38	163.09	174.98	186.62	174.90	9.19	65.41
300.86	167.39	163.24	176.42	187.06	175.25	9.31	65.47
301.09	167.39	163.38	175.72	187.37	175.50	9.37	65.52
301.67	167.41	163.77	176.14	187.80	175.92	9.39	65.62
302.00	167.42	164.94	177.33	188.99	177.10	9.40	65.72
305.14	167.51	173.56	186.08	197.81	185.83	9.48	DIFF

RUN NO. 72

JOHNSON & ORSHAN

AIRCRAFT ALTITUDE: 6000 FT ABOVE MSL

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

TYPE: ISOTROPIC

POLARIZATION: CIRCULAR

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.03 NMI

TERRAIN ELEVATION AT SITE: 0 FT

TERRAIN DELTA: 50 FT

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

OBST LTH: DETERMINED AT 4 FT ABOVE MSL

CLIMATE: DESERT

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

SURFACE REFLECTION LOSS: DETERMINES MEDIAN

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	PULSE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	128.66	128.46	128.61	128.77	128.62	0.12	0.22
6.66	139.66	129.46	129.63	139.78	129.63	0.12	1.23
10.69	141.47	141.40	141.55	141.71	141.55	0.12	2.33
13.70	142.68	142.61	142.76	142.91	142.76	0.12	2.98
17.90	144.23	144.20	144.35	144.60	144.35	0.12	3.89
24.44	146.38	146.36	146.51	146.67	146.52	0.12	6.32
29.66	147.78	147.81	147.96	148.12	147.96	0.12	6.43
32.81	148.69	148.64	148.79	148.94	148.79	0.12	7.14
36.76	149.49	149.56	149.71	149.87	149.71	0.12	8.00
41.88	150.80	150.81	150.76	150.91	150.76	0.12	9.07
48.00	151.68	151.80	151.95	152.11	151.95	0.12	10.46
55.93	152.93	152.13	152.27	152.42	152.28	0.12	12.17
60.40	153.88	153.80	153.95	154.10	153.95	0.12	13.14
65.60	154.27	154.53	154.88	154.83	154.68	0.12	14.27
70.60	154.92	155.21	155.36	155.52	155.36	0.12	15.41
76.99	155.51	155.84	155.96	156.14	155.99	0.12	16.61
80.70	156.03	156.40	156.55	156.70	156.55	0.12	17.86
85.78	156.58	156.96	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.52	0.12	19.74
95.82	157.47	157.99	158.10	158.26	158.10	0.12	20.76
100.83	157.94	158.48	158.51	158.77	158.61	0.12	21.94
105.68	158.33	158.88	159.04	159.20	159.04	0.12	22.98
110.31	158.71	159.30	159.48	159.62	159.48	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	26.12
120.96	159.50	160.17	160.34	160.62	160.34	0.13	26.32
125.78	159.84	160.55	160.72	160.91	160.72	0.14	27.27
130.86	160.10	160.92	161.11	161.30	161.12	0.15	28.48
135.82	160.50	161.28	161.40	161.69	161.48	0.16	29.66
140.72	160.81	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.12	161.97	162.21	162.45	162.21	0.19	31.76
150.76	161.40	162.27	162.54	162.81	162.54	0.21	32.80
155.60	161.68	162.57	162.88	163.18	162.87	0.24	33.87
160.53	161.96	162.86	163.22	163.57	163.22	0.26	35.00
165.81	162.23	163.08	163.55	163.99	163.54	0.28	36.08
170.61	162.47	163.13	163.86	164.59	163.86	0.37	37.13
175.93	162.72	163.11	164.19	165.28	164.19	0.35	38.22
180.88	162.98	163.04	164.53	166.00	164.54	1.18	39.36
185.87	163.21	163.81	164.88	166.92	164.87	1.61	40.45
190.86	163.44	163.34	165.19	167.98	165.17	2.20	41.53
195.99	163.67	163.96	165.51	169.45	165.75	2.93	42.66
200.92	163.89	163.28	165.96	171.28	166.84	3.62	43.72
205.00	164.10	162.55	167.40	172.77	167.75	3.99	44.83
208.30	164.12	163.22	168.15	173.05	168.80	3.06	44.89
208.08	164.18	163.38	168.24	173.33	168.94	3.15	45.28
209.84	164.26	163.40	168.36	173.60	167.07	3.25	45.66
211.00	164.31	163.47	168.42	173.77	167.16	3.30	45.91
211.65	164.34	163.44	168.46	173.86	167.20	3.34	46.06
213.47	164.41	163.48	168.56	173.12	167.34	3.42	46.45
216.32	164.49	163.52	168.67	172.38	167.42	3.51	46.85
218.00	164.52	163.54	168.71	172.47	167.52	3.54	47.00
217.19	164.55	163.56	168.78	172.63	167.60	3.60	47.26
219.08	164.64	163.60	168.88	172.91	167.73	3.60	47.67

220.00	164.71	163.64	166.99	173.14	167.87	3.77	48.09
221.00	164.71	163.65	166.99	173.14	167.87	3.77	48.09
222.92	164.79	163.69	167.10	173.39	168.00	3.85	48.51
224.87	164.86	163.74	167.22	173.63	168.13	3.92	48.93
226.00	164.91	163.77	167.28	173.77	168.21	3.97	49.18
228.85	164.94	163.79	167.33	173.88	168.27	4.00	49.36
228.84	165.02	163.84	167.45	174.12	168.40	4.08	49.80
230.86	165.09	163.89	167.55	174.37	168.54	4.16	50.24
231.00	165.10	163.89	167.57	174.39	168.55	4.17	50.27
232.91	165.17	163.94	167.68	174.62	168.68	4.24	50.68
234.97	165.24	163.99	167.80	174.88	168.82	4.32	51.13
236.00	165.28	164.01	167.87	175.02	168.90	4.37	51.35
237.06	165.32	164.04	167.93	175.16	168.97	4.42	51.59
239.17	165.40	164.09	168.06	175.44	169.12	4.51	52.05
241.00	165.46	164.14	168.17	175.69	169.26	4.59	52.44
241.30	165.47	164.14	168.18	175.73	169.29	4.60	52.51
243.46	165.55	164.20	168.32	176.02	169.43	4.69	52.98
245.64	165.63	164.25	168.45	176.31	169.59	4.79	53.45
246.00	165.64	164.26	168.47	176.35	169.62	4.80	53.53
247.85	165.71	164.30	168.59	176.60	169.75	4.88	53.93
250.08	165.78	164.36	168.72	176.89	169.91	4.98	54.42
251.00	165.82	164.38	168.78	177.01	169.98	5.02	54.62
252.33	165.86	164.41	168.87	177.18	170.07	5.07	54.91
254.61	165.94	164.47	169.01	177.48	170.24	5.17	55.40
256.00	165.99	164.50	169.10	177.66	170.34	5.22	55.71
258.91	166.02	164.53	169.16	177.76	170.40	5.26	55.90
259.23	166.10	164.59	169.31	178.08	170.57	5.36	56.41
261.00	166.15	164.63	169.43	178.34	170.71	5.45	56.79
261.59	166.17	164.64	169.47	178.44	170.76	5.48	56.92
263.96	166.25	164.69	169.62	178.81	170.95	5.61	57.44
265.00	166.32	164.74	169.76	179.14	171.12	5.72	57.88
266.37	166.33	164.74	169.78	179.20	171.15	5.74	57.96
268.80	166.41	164.80	169.96	179.59	171.35	5.87	58.49
271.00	166.48	164.84	170.10	179.93	171.53	5.99	58.97
271.25	166.49	164.85	170.12	179.97	171.55	6.00	59.03
273.74	166.57	164.84	170.27	180.35	171.72	6.16	59.57
276.00	166.64	164.80	170.44	180.77	171.91	6.33	60.06
276.25	166.65	164.80	170.47	180.82	171.93	6.35	60.11
276.80	166.72	164.77	170.73	181.55	172.18	6.57	60.67
280.99	166.79	164.65	170.84	181.76	172.31	6.77	61.15
281.38	166.81	164.62	170.84	181.80	172.32	6.80	61.23
284.00	166.89	164.55	170.79	181.88	172.30	6.87	61.80
286.00	166.95	164.60	171.04	182.18	172.51	6.96	62.24
286.66	166.97	164.64	171.21	182.39	172.65	7.02	62.38
289.39	167.05	164.78	172.17	183.44	173.38	7.34	62.97
291.00	167.10	164.65	172.12	183.44	173.32	7.40	63.32
292.20	167.13	164.41	171.57	182.93	172.88	7.30	63.59
295.18	167.22	163.71	170.25	181.70	171.78	7.12	64.23
296.00	167.25	163.63	170.25	181.74	171.77	7.16	64.41
297.34	167.28	163.65	170.81	182.32	172.17	7.36	64.70
298.52	167.32	163.78	171.80	183.35	172.90	7.69	64.96
299.30	167.34	163.90	172.64	184.22	173.53	7.97	65.13
299.85	167.36	163.99	173.29	184.91	174.01	8.19	65.25
300.28	167.37	164.06	173.76	185.39	174.36	8.35	65.34
300.59	167.38	164.11	174.11	185.75	174.62	8.46	65.41
300.88	167.39	164.15	174.37	186.02	174.82	8.55	65.47
301.02	167.39	164.18	174.51	186.15	174.92	8.59	65.50
301.39	167.39	164.21	174.73	186.38	175.09	8.66	65.52
302.00	167.42	165.29	177.68	189.35	177.45	9.40	65.72
304.56	167.49	173.42	185.93	197.65	185.69	9.47	DIFR

RUN NO. 73

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: DETERMINES MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	138.56	138.48	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.48	139.63	139.78	139.63	0.12	1.23
10.69	141.47	141.40	141.55	141.71	141.55	0.12	2.33
13.70	142.66	142.61	142.76	142.91	142.76	0.12	2.98
17.90	144.23	144.20	144.35	144.50	144.35	0.12	3.89
24.44	146.36	146.36	146.51	146.67	146.52	0.12	5.32
29.56	147.78	147.81	147.96	148.12	147.96	0.12	6.43
32.81	148.59	148.64	148.79	148.94	148.79	0.12	7.14
36.76	149.49	149.56	149.71	149.87	149.71	0.12	8.00
41.68	150.50	150.61	150.76	150.91	150.76	0.12	9.07
48.00	151.66	151.80	151.95	152.11	151.95	0.12	10.45
55.93	152.93	153.13	153.27	153.43	153.28	0.12	12.17
60.40	153.58	153.80	153.95	154.10	153.95	0.12	13.14
65.60	154.27	154.53	154.68	154.83	154.68	0.12	14.27
70.80	154.92	155.21	155.36	155.52	155.36	0.12	15.41
75.89	155.51	155.84	155.99	156.14	155.99	0.12	16.51
80.70	156.03	156.40	156.55	156.70	156.55	0.12	17.56
85.78	156.55	156.95	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.62	0.12	19.74
95.52	157.47	157.95	158.10	158.26	158.10	0.2	20.79
100.83	157.94	158.45	158.61	158.77	158.61	0.12	21.94
105.58	158.33	158.88	159.04	159.20	159.04	0.12	22.58
110.31	158.71	159.30	159.46	159.62	159.46	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	25.17
120.96	159.50	160.17	160.34	160.52	160.34	0.13	26.32
125.78	159.84	160.55	160.72	160.91	160.73	0.14	27.37
130.88	160.18	160.93	161.11	161.30	161.12	0.15	28.48
135.82	160.50	161.28	161.48	161.69	161.48	0.16	29.55
140.72	160.81	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.12	161.97	162.21	162.45	162.21	0.19	31.76
150.75	161.40	162.27	162.54	162.81	162.54	0.21	32.80
155.66	161.68	162.57	162.88	163.18	162.87	0.24	33.87
160.83	161.96	162.86	163.22	163.57	163.22	0.28	35.00
165.81	162.23	163.08	163.55	163.99	163.54	0.36	36.08
170.61	162.47	163.13	163.86	164.52	163.86	0.57	37.13
175.63	162.72	163.11	164.19	165.28	164.19	0.55	38.22
180.88	162.98	163.04	164.53	166.06	164.54	1.18	39.36
185.87	163.21	162.81	164.86	166.92	164.87	1.61	40.45
190.85	163.44	162.34	165.19	167.98	165.17	2.20	41.53
195.99	163.67	161.96	165.81	169.45	165.75	2.93	42.65
200.92	163.89	162.26	166.96	171.28	166.84	3.52	43.72
206.00	164.10	162.55	167.90	172.77	167.75	3.99	44.83
206.30	164.12	163.32	166.15	171.05	166.80	3.06	44.89
208.06	164.19	163.36	166.25	171.33	166.94	3.15	45.28
209.84	164.26	163.40	166.36	171.60	167.07	3.25	45.66
211.00	164.31	163.43	166.42	171.77	167.16	3.30	45.91
211.65	164.34	163.44	166.46	171.86	167.20	3.34	46.06
213.47	164.41	163.48	166.56	172.12	167.34	3.42	46.45
215.32	164.49	163.52	166.67	172.38	167.47	3.51	46.86
216.00	164.52	163.54	166.71	172.47	167.52	3.54	47.00
217.19	164.56	163.56	166.78	172.63	167.60	3.60	47.26
219.08	164.64	163.60	166.88	172.89	167.73	3.68	47.67

220.99	164.71	163.64	166.99	173.14	167.87	3.77	48.09
221.00	164.71	163.65	166.99	173.14	167.87	3.77	48.09
222.92	164.79	163.69	167.10	173.39	168.00	3.85	48.51
224.87	164.86	163.74	167.22	173.63	168.13	3.92	48.93
226.00	164.91	163.77	167.28	173.77	168.21	3.97	49.18
226.85	164.94	163.79	167.33	173.88	168.27	4.00	49.36
228.84	165.02	163.04	167.45	174.12	168.40	4.08	49.80
230.86	165.09	163.89	167.56	174.37	168.54	4.16	50.24
231.00	165.10	163.89	167.57	174.39	168.55	4.17	50.27
232.91	165.17	163.94	167.68	174.62	168.68	4.24	50.68
234.97	165.24	163.99	167.80	174.88	168.82	4.32	51.13
236.00	165.28	164.01	167.87	175.02	168.90	4.37	51.35
237.06	165.32	164.04	167.93	175.16	168.97	4.42	51.59
239.17	165.40	164.09	168.06	175.44	169.12	4.51	52.05
241.00	165.46	164.14	168.17	175.69	169.26	4.59	52.44
241.30	165.47	164.14	168.18	175.73	169.28	4.60	52.51
243.46	165.55	164.20	168.32	176.02	169.43	4.69	52.98
245.64	165.63	164.25	168.45	176.31	169.59	4.79	53.45
246.00	165.64	164.26	168.47	176.35	169.62	4.80	53.53
247.85	165.71	164.30	168.59	176.60	169.75	4.88	53.93
250.08	165.78	164.36	168.72	176.89	169.91	4.98	54.42
251.00	165.82	164.38	168.78	177.01	169.98	5.02	54.62
252.33	165.86	164.41	168.87	177.18	170.07	5.07	54.91
254.61	165.94	164.47	169.01	177.48	170.24	5.17	55.40
256.00	165.99	164.50	169.10	177.66	170.34	5.22	55.71
256.91	166.02	164.53	169.16	177.78	170.40	5.26	55.90
259.23	166.10	164.59	169.31	178.08	170.57	5.36	56.41
261.00	166.15	164.63	169.43	178.34	170.71	5.45	56.79
261.59	166.17	164.64	169.47	178.44	170.76	5.48	55.92
263.96	166.25	164.69	169.62	178.81	170.95	5.61	57.44
265.00	166.32	164.74	169.76	179.14	171.12	5.72	57.88
266.37	166.33	164.74	169.78	179.20	171.15	5.74	57.96
268.80	166.41	164.80	169.96	179.59	171.35	5.87	58.49
271.00	166.48	164.84	170.10	179.93	171.53	5.99	58.97
271.25	166.49	164.85	170.12	179.97	171.55	6.00	59.03
273.74	166.57	164.84	170.27	180.35	171.72	6.16	59.57
275.00	166.64	164.80	170.44	180.77	171.91	6.33	60.06
276.25	166.65	164.80	170.47	180.82	171.93	6.35	60.11
278.80	166.73	164.77	170.73	181.35	172.18	6.57	60.67
280.99	166.79	164.65	170.84	181.75	172.31	6.77	61.15
281.38	166.81	164.62	170.84	181.80	172.32	6.80	61.23
284.00	166.89	164.55	170.79	181.88	172.30	6.87	61.80
286.00	166.95	164.60	171.04	182.18	172.51	6.96	62.24
286.86	166.97	164.64	171.22	182.39	172.65	7.02	62.38
289.39	167.05	164.78	172.17	183.44	173.38	7.34	62.97
290.08	167.07	164.76	172.25	183.54	173.44	7.39	63.12
291.00	167.10	165.11	174.70	186.02	175.24	8.18	63.32
292.20	167.13	166.02	177.90	189.26	177.73	9.08	63.59
293.87	167.18	170.24	182.31	193.79	182.13	9.20	DIFR
296.00	167.25	177.24	189.38	200.92	189.19	9.25	DIFR
297.00	167.27	180.52	192.70	204.25	192.50	9.27	DIFR
298.00	167.30	183.80	196.01	207.59	195.81	9.29	DIFR
299.00	167.33	187.06	199.32	210.92	199.12	9.32	DIFR
300.00	167.36	190.34	202.63	214.26	202.42	9.54	DIFR
301.00	167.39	193.60	205.94	217.59	205.73	9.37	DIFR

RUN NO. 74

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 2017 ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

MAIN DIRECTION: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: DETERMINED MEDIAN

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST INT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
0.65	139.56	141.46	139.63	139.78	139.63	0.12	1.23
12.69	141.47	141.43	141.55	141.71	141.55	0.12	2.33
13.70	142.66	142.61	142.76	142.91	142.76	0.12	2.99
17.90	144.23	144.20	144.35	144.50	144.35	0.12	3.89
24.44	146.36	146.36	146.51	146.67	146.52	0.12	5.32
29.56	147.78	147.81	147.96	148.12	147.96	0.12	6.43
32.81	148.59	148.64	148.79	148.94	148.79	0.12	7.14
36.76	149.49	149.56	149.71	149.87	149.71	0.12	8.00
41.08	150.50	150.61	150.76	150.91	150.76	0.12	9.07
48.00	151.65	151.80	151.95	152.11	151.95	0.12	10.45
55.23	152.93	153.13	153.27	153.43	153.28	0.12	12.17
60.40	153.58	153.80	153.95	154.10	153.95	0.12	13.14
65.60	154.27	154.53	154.68	154.83	154.68	0.12	14.27
70.80	154.92	155.21	155.36	155.52	155.36	0.12	15.41
75.89	155.51	155.84	155.99	156.14	155.99	0.12	16.51
80.70	156.03	156.40	156.55	156.70	156.55	0.12	17.56
85.78	156.55	156.95	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.62	0.12	19.74
95.62	157.47	157.95	158.10	158.26	158.10	0.12	20.79
100.83	157.94	158.45	158.61	158.77	158.61	0.12	21.94
105.50	158.33	158.88	159.04	159.20	159.04	0.12	22.98
110.31	158.71	159.30	159.46	159.62	159.46	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	25.12
120.96	159.50	160.17	160.34	160.52	160.34	0.13	26.32
126.78	159.94	160.55	160.72	160.91	160.73	0.14	27.37
130.86	160.38	160.93	161.11	161.30	161.12	0.15	28.48
135.82	160.80	161.25	161.48	161.69	161.48	0.16	29.55
140.72	161.21	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.62	161.97	162.21	162.45	162.21	0.19	31.76
150.76	162.03	162.27	162.54	162.81	162.54	0.21	32.80
155.66	162.43	162.57	162.88	163.18	162.87	0.24	33.87
160.83	162.86	162.86	163.22	163.57	163.22	0.28	35.00
165.81	163.23	163.08	163.55	163.99	163.54	0.36	36.08
170.81	163.67	163.13	163.86	164.50	163.86	0.57	37.13
175.63	164.10	163.11	164.19	165.28	164.19	0.85	38.22
180.88	164.58	163.04	164.53	166.06	164.54	1.18	39.36
195.87	165.21	162.81	164.86	166.92	164.87	1.61	40.45
190.05	165.44	162.34	165.19	167.98	165.17	2.20	41.53
195.99	165.67	161.96	165.31	169.45	165.75	2.93	42.65
200.93	165.89	162.26	165.95	171.28	166.84	3.52	43.72
06.00	166.10	162.55	167.93	172.77	167.75	3.99	44.83
06.39	166.12	163.32	166.13	171.05	166.90	3.05	44.85
208.66	166.19	163.36	166.25	171.33	166.94	3.15	45.28
209.84	166.26	165.40	166.36	171.60	167.07	3.25	45.66
211.69	166.31	163.43	166.42	171.77	167.16	3.30	45.91
211.65	166.34	163.44	166.46	171.86	167.20	3.34	46.06
213.47	166.41	163.48	166.56	172.12	167.34	3.42	46.45
215.32	166.49	163.52	166.67	172.38	167.47	3.51	46.86
216.69	166.52	163.54	166.71	172.47	167.52	3.54	47.00
217.19	166.56	163.56	166.76	172.63	167.60	3.60	47.26
219.08	166.64	163.69	166.88	172.83	167.73	3.68	47.67

220.99	164.71	163.64	166.99	173.14	167.87	3.77	48.09
221.00	164.71	163.65	166.99	173.14	167.87	3.77	48.09
222.92	164.79	163.69	167.10	173.39	168.00	3.85	48.51
224.87	164.86	163.74	167.22	173.63	168.13	3.92	48.93
226.00	164.91	163.77	167.28	173.77	168.21	3.97	49.18
226.85	164.94	163.79	167.33	173.88	168.27	4.00	49.36
228.84	165.02	163.84	167.45	174.12	168.40	4.08	49.80
230.86	165.09	163.89	167.56	174.37	168.54	4.16	50.24
231.00	165.10	163.89	167.57	174.39	168.55	4.17	50.27
232.91	165.17	163.94	167.68	174.62	168.68	4.24	50.68
234.97	165.24	163.99	167.80	174.88	168.82	4.32	51.13
236.00	165.28	164.01	167.87	175.02	168.90	4.37	51.35
237.06	165.32	164.04	167.93	175.16	168.97	4.42	51.59
239.17	165.40	164.09	168.06	175.44	169.12	4.51	52.05
241.00	165.46	164.14	168.17	175.69	169.26	4.59	52.44
241.30	165.47	164.14	168.18	175.73	169.28	4.60	52.51
243.46	165.55	164.20	168.32	176.02	169.43	4.69	52.98
245.64	165.63	164.25	168.45	176.31	169.59	4.79	53.45
246.00	165.64	164.26	168.47	176.35	169.62	4.80	53.53
247.85	165.71	164.30	168.59	176.60	169.75	4.88	53.93
250.08	165.78	164.36	168.72	176.89	169.91	4.98	54.42
251.00	165.82	164.38	168.78	177.01	169.96	5.02	54.62
252.33	165.86	164.41	168.87	177.18	170.07	5.07	54.91
254.61	165.94	164.47	169.01	177.48	170.24	5.17	55.40
254.99	165.95	164.48	169.04	177.53	170.26	5.18	55.49
256.00	165.99	164.68	169.66	178.22	170.78	5.36	55.71
256.91	166.02	164.83	170.23	178.85	171.23	5.53	55.90
259.23	166.10	165.13	171.67	180.44	172.37	6.00	56.41
261.00	166.15	165.31	172.77	181.68	173.22	6.40	56.79
261.59	166.17	165.37	173.13	182.11	173.51	6.54	56.92
265.78	166.31	166.00	176.30	185.58	175.98	7.65	DIFR
268.00	166.38	166.96	177.38	186.73	177.05	7.73	DIFR
269.00	166.42	167.65	178.11	187.50	177.78	7.76	DIFR
270.00	166.45	168.34	178.85	188.26	178.51	7.79	DIFR
271.00	166.48	169.03	179.58	189.03	179.24	7.82	DIFR
272.00	166.51	169.72	180.32	189.79	179.97	7.84	DIFR
273.00	166.54	170.42	181.05	190.56	180.70	7.87	DIFR
274.00	166.58	171.11	181.79	191.32	181.43	7.90	DIFR
275.00	166.61	171.81	182.52	192.08	182.16	7.92	DIFR
276.00	166.64	172.50	183.26	192.85	182.89	7.95	DIFR
277.00	166.67	173.17	184.00	193.61	183.62	7.99	DIFR
278.00	166.70	173.85	184.73	194.37	184.34	8.02	DIFR
279.00	166.73	174.52	185.47	195.14	185.07	8.06	DIFR
280.00	166.76	175.20	186.21	195.90	185.80	8.09	DIFR
281.00	166.79	175.89	186.95	196.66	186.53	8.12	DIFR
282.00	166.83	176.57	187.69	197.42	187.26	8.15	DIFR
283.00	166.86	177.25	188.43	198.18	187.99	8.18	DIFR
284.00	166.89	177.95	189.17	198.94	188.72	8.21	DIFR
85.00	166.92	178.64	189.91	199.70	189.45	8.24	DIFR
286.00	166.95	179.33	190.65	200.48	190.19	8.27	DIFR
287.00	166.98	180.03	191.39	201.26	190.92	8.30	DIFR
288.00	167.01	180.72	192.13	202.04	191.66	8.34	DIFR

RUN NO. 75

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 30 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.1 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION COEFF: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 260 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.10	123.30	123.52	123.31	0.16	0.35
5.06	127.66	126.28	127.72	129.46	127.81	1.25	1.78
10.43	132.64	130.08	132.76	136.61	133.12	2.57	3.66
14.34	135.18	132.20	135.34	140.15	135.86	3.13	5.03
20.83	138.29	134.96	138.51	144.27	139.20	3.67	7.31
25.90	140.14	136.71	140.41	146.57	141.18	3.90	9.09
30.85	141.63	138.16	141.96	148.40	142.78	4.05	10.63
35.76	142.90	139.41	143.29	149.92	144.15	4.16	12.55
40.69	144.01	140.52	144.46	151.25	145.35	4.24	14.28
45.80	145.03	141.53	145.54	152.42	146.43	4.30	16.08
50.87	145.94	142.45	146.51	153.46	147.41	4.35	17.85
55.80	146.74	143.27	147.37	154.38	148.28	4.39	19.58
60.89	147.49	144.05	148.20	155.26	149.11	4.43	21.37
65.75	148.16	144.76	148.93	156.04	149.85	4.46	23.08
70.79	148.80	145.45	149.65	156.80	150.57	4.49	24.84
75.63	149.37	146.08	150.31	157.50	151.23	4.51	26.54
80.97	149.06	146.75	151.03	158.26	151.95	4.55	28.42
85.83	150.47	147.29	151.71	159.03	152.61	4.64	30.12
90.93	150.97	147.66	152.38	159.91	153.26	4.83	31.91
95.99	151.44	147.91	152.96	160.69	153.79	5.03	33.69
100.76	151.86	148.11	153.44	161.36	154.25	5.21	35.36
105.90	152.29	148.47	154.14	162.24	154.90	5.41	37.17
110.88	152.69	149.08	155.05	163.32	155.77	5.59	38.92
115.99	153.08	149.74	156.07	164.47	156.72	5.78	40.71
120.73	153.43	150.30	156.91	165.42	157.60	5.92	42.37
125.71	153.78	150.92	157.91	166.47	158.40	6.08	44.12
130.97	154.13	151.52	158.86	167.50	159.27	6.25	45.97
135.85	154.45	152.09	159.81	168.52	160.12	6.42	47.68
140.91	154.77	152.62	160.72	169.50	160.93	6.60	49.45
145.77	155.06	153.11	161.64	170.45	161.73	6.77	51.16
150.55	155.34	153.55	162.48	171.44	162.49	6.99	52.84
155.55	155.63	153.99	163.39	172.52	163.31	7.24	54.59
160.79	155.91	154.40	164.28	173.72	164.14	7.55	56.43
165.96	156.19	154.79	165.18	175.06	165.02	7.92	58.25
167.14	156.25	154.87	165.37	175.34	165.20	8.00	58.66
170.84	156.44	155.08	165.92	176.23	165.76	8.26	59.95
170.97	156.45	155.09	165.93	176.26	165.77	8.27	60.00
172.83	156.54	155.19	166.28	176.81	166.11	8.45	60.66
174.09	156.60	155.25	166.50	177.18	166.32	8.57	61.10
174.97	156.65	155.29	166.65	177.44	166.47	8.65	61.41
175.64	156.68	155.31	166.77	177.65	166.59	8.73	61.64
176.00	156.70	155.32	166.83	177.77	166.65	8.77	61.77
176.15	156.71	155.33	166.85	177.81	166.68	8.78	61.83
176.57	156.73	155.35	166.93	177.95	166.75	8.83	61.97
176.92	156.74	155.36	166.99	178.08	166.82	8.86	62.10
177.75	156.78	155.39	167.17	178.42	167.01	9.00	62.39
178.31	156.81	155.43	167.25	178.54	167.09	9.03	62.58
180.94	156.94	158.95	170.94	182.36	172.76	9.15	63.51
182.55	157.02	162.15	174.24	185.73	174.05	9.21	DIFF
185.00	157.13	169.50	181.72	193.31	181.53	9.30	DIFF
186.05	157.18	172.49	184.78	196.40	184.57	9.34	DIFF
187.00	157.22	175.46	187.83	199.49	187.61	9.39	DIFF

RUN NO. 76

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: DETERMINED 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.06	127.66	127.57	127.72	127.88	127.72	0.12	1.76
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.83	138.29	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
30.85	141.63	141.81	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.08
50.87	145.94	146.35	146.51	146.67	146.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.89	147.49	148.03	148.20	148.37	148.20	0.14	21.37
65.75	148.16	148.74	148.93	149.13	148.93	0.15	23.08
70.79	148.80	149.42	149.65	149.90	149.65	0.19	24.84
75.63	149.37	149.98	150.31	150.65	150.32	0.26	26.54
80.97	149.96	150.44	151.03	151.63	151.03	0.47	28.42
85.83	150.47	150.50	151.71	152.91	151.70	0.34	30.12
90.93	150.97	150.26	152.38	154.49	152.38	1.65	31.91
95.99	151.44	150.09	152.96	155.79	152.95	2.22	33.69
100.76	151.86	150.03	153.44	156.85	153.44	2.66	35.36
105.90	152.29	150.13	154.14	158.10	154.13	3.11	37.17
110.88	152.69	150.54	155.05	159.53	155.04	3.51	38.92
115.99	153.08	150.98	155.07	161.07	156.04	3.94	40.71
120.73	153.43	151.37	156.91	162.36	156.88	4.29	42.37
125.71	153.78	151.79	157.91	163.80	157.84	4.69	44.12
130.97	154.13	152.22	158.86	165.25	158.78	5.09	45.97
135.85	154.45	152.61	159.81	166.66	159.70	5.49	47.68
140.91	154.77	153.00	160.72	168.04	160.59	5.88	49.45
145.77	155.06	153.36	161.64	169.40	161.48	6.27	51.16
150.55	155.34	153.71	162.48	170.76	162.33	6.66	52.84
155.55	155.63	154.07	163.39	172.18	163.22	7.08	54.59
160.79	155.91	154.41	164.28	173.68	164.13	7.53	56.43
165.96	156.19	154.73	165.18	175.20	165.05	8.00	58.25
167.14	156.25	154.80	165.37	175.51	165.23	8.03	58.66
170.84	156.44	154.98	165.92	176.49	165.80	8.40	59.96
170.97	156.45	154.98	165.93	176.52	165.82	8.41	60.00
172.83	156.54	155.10	166.28	177.03	166.15	8.57	60.66
174.09	156.60	155.18	166.50	177.35	166.35	8.66	61.10
174.97	156.65	155.23	166.65	177.58	166.50	8.73	61.41
175.64	156.68	155.27	166.77	177.76	166.61	8.79	61.64
176.00	156.70	155.29	166.83	177.86	166.67	8.82	61.77
176.15	156.71	155.30	166.85	177.90	166.69	8.83	61.83
176.57	156.73	155.32	166.93	178.02	166.77	8.87	61.97
176.92	156.74	155.34	166.99	178.14	166.83	8.91	62.10
177.22	156.76	155.35	167.09	178.31	166.93	8.97	62.20
178.31	156.81	155.43	167.25	178.54	167.09	9.03	62.58
180.94	156.94	159.61	171.60	183.02	171.43	9.15	63.51
181.96	156.99	161.96	174.01	185.48	173.53	9.19	D'FR
184.00	157.08	168.15	180.32	191.87	183.12	9.27	D'FR
185.00	157.13	171.18	183.40	194.99	183.21	9.30	D'FR
186.00	157.18	174.21	186.49	198.12	186.29	9.34	D'FR

RUN NO. 77

JOHNSON & GERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NM

TERRAIN DELTA: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.06	127.66	127.57	127.72	127.88	127.72	0.12	1.78
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.83	138.29	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
30.85	141.63	141.81	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.08
50.87	145.94	146.35	146.51	146.67	146.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.89	147.49	148.03	148.20	148.37	148.20	0.14	21.37
65.75	148.16	148.74	148.93	149.13	148.93	0.15	23.08
70.79	148.80	149.42	149.65	149.90	149.65	0.19	24.84
75.63	149.37	149.98	150.31	150.65	150.32	0.26	26.54
80.97	149.96	150.44	151.03	151.63	151.03	0.47	28.42
85.83	150.47	150.50	151.71	152.91	151.70	0.94	30.12
90.93	150.97	150.26	152.38	154.49	152.38	1.65	31.91
95.99	151.44	150.09	152.96	155.79	152.95	2.22	33.69
100.76	151.86	150.03	153.44	156.85	153.44	2.66	35.36
105.90	152.29	150.13	154.14	158.10	154.13	3.11	37.17
110.88	152.69	150.54	155.05	159.53	155.04	3.51	38.92
115.99	153.08	150.98	156.07	161.07	156.04	3.94	40.71
120.73	153.43	151.37	156.91	162.36	156.88	4.29	42.37
125.71	153.78	151.79	157.91	163.80	157.84	4.69	44.12
130.97	154.13	152.22	158.86	165.25	158.78	5.09	45.97
135.85	154.45	152.61	159.81	166.66	159.70	5.49	47.68
140.91	154.77	153.00	160.72	168.04	160.59	5.88	49.45
145.77	155.06	153.36	161.64	169.40	161.48	6.27	51.16
150.55	155.34	153.71	162.48	170.76	162.33	6.66	52.84
155.55	155.63	154.07	163.39	172.18	163.22	7.08	54.59
160.79	155.91	154.41	164.28	173.68	164.13	7.53	56.43
164.57	156.12	154.65	164.96	174.83	164.82	7.88	57.76
165.96	156.19	154.72	165.18	175.22	165.05	8.01	58.25
167.14	156.25	154.78	165.37	175.55	165.24	8.11	58.66
170.84	156.44	155.66	166.62	177.23	166.51	8.42	59.96
170.97	156.45	155.81	166.78	177.39	166.67	8.43	60.00
171.28	156.46	156.02	167.18	177.88	167.03	8.52	DIFR
174.00	156.60	162.65	174.01	184.80	173.84	8.66	DIFR
175.00	156.65	165.08	176.52	187.35	176.33	8.70	DIFR
176.00	156.70	167.51	179.04	189.69	178.83	8.75	DIFR
177.00	156.75	169.94	181.55	192.44	181.33	8.79	DIFR
178.00	156.80	172.38	184.06	195.01	183.83	8.84	DIFR
179.00	156.84	174.83	186.57	197.58	186.34	8.89	DIFR
180.00	156.89	177.27	189.08	200.14	188.85	8.93	DIFR

RUN NO. 78

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	123.27	123.15	123.30	123.46	123.30	0.12	0.35
5.06	127.66	127.57	127.72	127.88	127.72	0.12	1.78
10.43	132.64	132.61	132.76	132.91	132.76	0.12	3.66
14.34	135.18	135.19	135.34	135.49	135.34	0.12	5.03
20.83	138.29	138.36	138.51	138.66	138.51	0.12	7.31
25.90	140.14	140.26	140.41	140.57	140.42	0.12	9.09
30.85	141.63	141.81	141.96	142.12	141.96	0.12	10.83
35.76	142.90	143.14	143.29	143.44	143.29	0.12	12.55
40.69	144.01	144.31	144.46	144.61	144.46	0.12	14.28
45.80	145.03	145.39	145.54	145.69	145.54	0.12	16.08
50.87	145.94	146.35	146.51	146.67	146.51	0.12	17.85
55.80	146.74	147.21	147.37	147.54	147.37	0.13	19.58
60.89	147.49	148.03	148.20	148.37	148.20	0.14	21.37
65.75	148.16	148.74	148.93	149.13	148.93	0.15	23.08
70.79	148.80	149.42	149.65	149.90	149.65	0.19	24.84
75.63	149.37	149.98	150.31	150.65	150.32	0.26	26.54
80.97	149.96	150.44	151.03	151.63	151.03	0.47	28.42
85.83	150.47	150.50	151.71	152.91	151.70	0.94	30.12
90.93	150.97	150.26	152.38	154.49	152.38	1.65	31.91
95.99	151.44	150.09	152.96	155.79	152.95	2.22	33.69
100.76	151.86	150.03	153.44	156.85	153.44	2.66	35.36
105.90	152.29	150.13	154.14	158.10	154.13	3.11	37.17
110.88	152.69	150.54	155.05	159.53	155.04	3.51	38.92
115.99	153.08	150.98	156.07	161.07	156.04	3.94	40.71
120.73	153.43	151.37	156.91	162.36	156.88	4.29	42.37
125.71	153.78	151.79	157.91	163.80	157.84	4.69	44.12
130.97	154.13	152.22	158.86	165.25	158.76	5.09	45.97
135.85	154.45	152.61	159.81	166.66	159.70	5.49	47.68
140.91	154.77	153.00	160.72	168.04	160.59	5.88	49.45
145.77	155.06	153.36	161.64	169.40	161.48	6.27	51.16
150.55	155.34	153.71	162.48	170.76	162.33	6.66	52.84
155.55	155.63	154.07	163.39	172.18	163.22	7.08	54.59
160.79	155.91	154.41	164.28	173.68	164.13	7.53	56.43
164.57	156.12	154.65	164.96	174.83	164.82	7.88	57.76
165.96	156.19	154.72	165.18	175.22	165.05	8.01	58.25
167.14	156.25	154.78	165.37	175.55	165.24	8.11	58.66
170.84	156.44	155.66	166.62	177.23	166.51	8.42	59.96
170.97	156.45	155.81	166.78	177.39	166.67	8.43	60.00
171.28	156.46	156.08	167.18	177.88	167.06	8.52	DIFR
174.00	156.60	162.65	174.01	184.80	173.84	8.66	DIFR
175.00	156.65	165.08	176.52	187.35	176.33	8.70	DIFR
176.00	156.70	167.51	179.04	189.89	178.83	8.75	DIFR
177.00	156.75	169.94	181.55	192.44	181.33	8.79	DIFR
178.00	156.80	172.38	184.06	195.01	183.03	8.84	DIFR
179.00	156.84	174.83	186.57	197.50	186.34	8.89	DIFR
180.00	156.89	177.27	189.08	200.14	188.85	8.93	DIFR

RUN NO. 79

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.14	129.35	129.56	129.35	0.16	0.35
5.06	133.68	132.33	133.78	135.52	133.87	1.25	1.79
10.43	138.67	136.17	138.85	142.70	139.21	2.57	3.70
14.34	141.20	136.31	141.45	146.27	141.97	3.13	5.08
20.83	144.31	141.11	144.67	150.42	145.35	3.67	7.38
25.90	146.16	142.90	146.60	152.76	147.37	3.90	9.18
30.85	147.65	144.38	148.18	154.62	149.00	4.05	10.94
35.76	148.92	145.66	149.54	156.18	150.40	4.16	12.68
40.69	150.03	146.81	150.74	157.53	151.63	4.24	14.42
45.80	151.05	147.86	151.86	158.74	152.76	4.30	16.23
50.87	151.96	148.81	152.87	159.82	153.77	4.35	18.03
55.80	152.76	149.67	153.77	160.78	154.68	4.39	19.76
60.89	153.51	150.50	154.63	161.70	155.55	4.43	21.58
65.75	154.18	151.24	155.41	162.51	156.32	4.46	23.31
70.79	154.82	151.97	156.17	163.32	157.09	4.49	25.09
75.63	155.39	152.63	156.87	164.07	157.79	4.53	26.81
80.97	155.98	153.31	157.64	164.92	158.56	4.59	28.70
85.83	156.49	153.87	158.36	165.77	159.27	4.70	30.42
90.93	156.99	154.27	159.08	166.71	159.96	4.90	32.23
95.99	157.46	154.55	159.70	167.55	160.55	5.12	34.03
100.76	157.88	154.79	160.24	168.28	161.05	5.31	35.72
105.90	158.31	155.29	161.08	169.30	161.84	5.50	37.54
110.88	158.71	155.98	162.08	170.46	162.79	5.68	39.30
115.99	159.10	156.69	163.15	171.68	163.80	5.87	41.11
120.73	159.45	157.32	164.09	172.73	164.67	6.04	42.79
125.71	159.80	157.99	165.13	173.84	165.62	6.20	44.56
130.97	160.15	158.67	166.20	175.03	166.60	6.40	46.42
135.85	160.47	159.28	167.19	176.12	167.51	6.58	48.15
140.91	160.79	159.88	168.22	177.27	168.44	6.80	49.95
145.77	161.08	160.40	169.18	178.44	169.33	7.05	51.67
150.55	161.36	160.89	170.15	179.68	170.24	7.34	53.37
155.55	161.65	161.30	171.11	181.11	171.17	7.74	55.14
160.79	161.93	161.70	172.13	182.69	172.17	8.20	56.99
165.78	162.20	162.21	173.06	183.86	173.05	8.46	58.76
170.70	162.45	162.71	173.95	184.95	173.87	8.69	60.51
172.81	162.56	162.93	174.36	185.44	174.25	8.80	61.25
174.98	162.67	163.14	174.77	185.92	174.62	8.90	62.02
176.00	162.72	163.24	174.95	186.17	174.80	8.96	62.39
176.15	162.73	163.26	174.98	186.21	174.83	8.97	62.44
176.92	162.76	163.34	175.14	186.42	174.97	9.02	62.71
177.47	162.79	163.39	175.28	186.62	175.11	9.07	62.91
177.89	162.81	163.44	175.35	186.71	175.17	9.09	63.05
178.22	162.83	163.47	175.40	186.78	175.23	9.11	63.17
178.48	162.84	163.49	175.44	186.83	175.27	9.12	63.27
178.71	162.85	163.51	175.48	186.88	175.30	9.13	63.35
178.99	162.86	163.54	175.52	186.94	175.35	9.14	63.44
179.62	162.90	163.60	175.62	187.07	175.44	9.17	63.67
181.00	162.96	164.99	177.09	198.60	176.91	9.22	64.16
182.55	163.04	169.30	181.48	193.05	181.29	9.28	DIFR
185.00	163.15	178.58	190.94	202.59	190.72	9.38	DIFR
186.00	163.20	182.36	194.79	206.48	194.56	9.42	DIFR
187.00	163.24	186.14	198.65	210.37	198.40	9.47	DIFR

188.00	163.29	189.9	202.51	214.25	202.24	9.51	DIFR
189.00	163.34	193.4	206.09	217.87	205.82	9.55	SCAT
190.00	163.38	195.02	207.74	219.57	207.46	9.59	SCAT

RUN NO. 80

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.20	129.35	129.50	129.35	0.12	0.35
5.06	133.68	133.63	133.78	133.94	133.78	0.12	1.79
10.43	138.67	138.70	138.85	139.00	138.85	0.12	3.70
14.34	141.20	141.30	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.67	0.12	7.38
25.90	146.16	146.45	146.60	146.76	146.60	0.12	9.18
30.85	147.65	148.03	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.39	149.54	149.69	149.54	0.12	12.68
40.69	150.03	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.76	153.61	153.77	153.94	153.77	0.13	19.78
60.89	153.51	154.46	154.63	154.81	154.64	0.14	21.58
65.75	154.18	155.22	155.41	155.61	155.41	0.15	23.31
70.79	154.82	155.85	156.17	156.49	156.17	0.24	25.09
75.63	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	155.98	156.30	157.64	159.15	157.69	1.11	28.70
85.83	156.49	156.43	158.36	160.55	158.44	1.61	30.42
90.93	156.99	156.38	159.08	162.09	159.18	2.23	32.23
95.99	157.46	156.34	159.70	163.40	159.81	2.76	34.03
100.76	157.88	156.37	160.24	164.48	160.35	3.17	35.72
105.90	158.31	156.66	161.08	165.84	161.19	3.59	37.54
110.88	158.71	157.18	162.08	167.34	162.19	3.97	39.30
115.99	159.10	157.72	163.15	168.90	163.25	4.37	41.11
120.73	159.45	158.19	164.09	170.28	164.18	4.72	42.79
125.71	159.80	158.69	165.13	171.76	165.19	5.11	44.56
130.97	160.15	159.20	166.20	173.36	166.25	5.53	46.42
135.85	160.47	159.67	167.19	174.82	167.22	5.92	48.15
140.91	160.79	160.15	168.22	176.34	168.24	6.32	49.95
145.77	161.08	160.59	169.18	177.84	169.20	6.74	51.67
150.55	161.36	161.03	170.15	179.36	170.18	7.16	53.37
155.55	161.65	161.36	171.11	180.96	171.14	7.65	55.14
160.79	161.93	161.70	172.13	182.69	172.17	8.20	56.99
165.78	162.20	162.21	173.06	183.86	173.05	8.46	58.76
170.70	162.45	162.71	173.95	184.95	173.87	8.69	60.51
172.81	162.56	162.93	174.36	185.44	174.25	8.80	61.25
174.98	162.67	163.14	174.77	185.92	174.62	8.90	62.02
176.00	162.72	163.24	174.95	186.17	174.80	8.96	62.38
176.15	162.73	163.26	174.99	186.21	174.83	8.97	62.44
176.92	162.76	163.34	175.14	186.42	174.97	9.02	62.71
177.47	162.79	163.39	175.28	186.62	175.11	9.07	62.91
177.89	162.81	163.44	175.35	186.71	175.17	9.09	63.05
178.22	162.83	163.47	175.40	186.78	175.23	9.11	63.17
178.43	162.84	163.49	175.43	186.82	175.26	9.12	63.24
178.4	162.84	163.49	175.44	186.83	175.27	9.12	63.27
178.7	162.85	163.51	175.49	186.88	175.30	9.13	63.35
179.62	162.90	163.60	175.62	187.07	175.44	9.17	63.67
181.00	162.96	166.05	178.15	189.65	177.96	9.22	64.16
181.96	163.01	169.16	181.32	192.86	181.12	9.26	DIFR
184.00	163.10	176.97	189.24	200.86	189.04	9.33	DIFR
185.00	163.15	180.77	193.13	204.78	192.91	9.38	DIFR
186.00	163.20	184.57	197.01	208.70	196.78	9.42	DIFR

187.00	163.24	188.38	200.89	212.61	200.85	9.47	DIFR
188.00	163.28	192.19	204.78	216.53	204.62	9.61	DIFR
189.00	163.34	194.46	207.10	218.88	206.82	9.86	ECAT

RUN NO. 81

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

PACELTY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.4 NM

TERRAIN DISTANCE: 50 FT

CLIMATE: DRY

SURFACE REFLECTION LOSS

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: REFRACTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 25 FT ABOVE MSL

MAXIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABLE FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRAIL/MISSION LOSS (DB)

DIST (NMI)	PUSH SPACE	10%	50%	90%	EXACTED VALUE	STD DEV	EFF DIST (NMI)
0.00	120.20	120.20	120.75	122.50	120.25	0.12	0.35
0.05	123.68	123.63	123.78	123.94	123.78	0.12	1.79
10.43	128.67	128.70	128.86	129.00	128.85	0.12	3.70
14.34	141.20	141.20	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.67	0.12	7.38
28.90	148.18	148.45	148.60	148.75	148.60	0.12	9.18
30.85	147.85	148.07	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.49	149.54	149.69	149.54	0.12	12.68
40.80	150.07	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.78	153.61	153.77	153.94	153.77	0.12	19.78
60.89	153.61	154.46	154.63	154.81	154.64	0.14	21.68
65.76	154.16	155.22	155.41	155.61	155.41	0.15	23.31
70.70	154.82	155.88	156.17	156.49	156.17	0.24	25.09
75.83	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	156.98	156.30	157.64	159.15	157.69	1.11	28.70
85.83	158.49	156.43	158.36	160.55	158.44	1.61	30.42
90.93	158.99	158.38	159.08	162.09	159.18	2.23	32.23
95.98	157.46	155.24	159.70	163.40	159.81	2.78	34.03
100.72	157.88	156.37	160.24	164.48	160.36	3.17	35.72
105.60	158.31	156.66	161.09	165.84	161.19	3.59	37.54
110.88	158.71	157.18	162.08	167.34	162.19	3.97	39.30
115.89	159.10	157.72	163.16	169.00	163.76	4.37	41.11
120.72	159.46	158.19	164.09	170.28	164.18	4.72	42.79
125.71	159.80	158.89	165.12	171.75	165.19	5.11	44.58
130.87	160.18	159.20	166.20	173.36	166.25	5.53	46.42
135.86	160.47	159.67	167.19	174.82	167.22	5.92	48.16
140.81	160.78	160.16	168.22	176.34	168.24	6.32	49.95
145.77	161.08	160.88	169.18	177.84	169.20	6.74	51.67
150.66	161.38	161.03	170.16	179.36	170.18	7.16	53.37
155.66	161.66	161.38	171.11	180.96	171.14	7.65	55.14
160.76	161.93	161.70	172.12	182.69	172.12	8.20	56.99
165.78	162.20	162.21	173.06	183.86	173.05	8.48	58.76
165.92	162.21	162.23	173.09	183.89	173.07	8.48	58.81
170.70	162.45	162.82	174.05	185.05	173.98	8.63	60.51
171.78	162.48	163.82	175.03	186.11	174.93	8.78	DIFF
174.00	162.62	170.80	182.23	193.41	182.09	8.91	DIFF
176.00	162.67	173.18	184.89	196.09	184.73	8.95	DIFF
176.00	162.72	176.75	187.54	198.86	187.37	9.00	DIFF
177.00	162.77	178.34	190.19	201.56	190.02	9.05	DIFF
178.00	162.82	180.92	192.84	204.21	192.67	9.10	DIFF
179.00	162.87	183.51	195.49	206.91	195.37	9.14	DIFF
180.00	162.91	186.10	198.16	209.61	197.96	9.18	DIFF

RUN NO. 82

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	129.29	129.20	129.35	129.50	129.35	0.12	0.35
5.06	133.68	133.63	133.78	133.94	133.78	0.12	1.79
10.43	138.67	138.70	138.65	139.00	138.65	0.12	3.70
14.34	141.20	141.30	141.45	141.61	141.45	0.12	5.08
20.83	144.31	144.52	144.67	144.82	144.67	0.12	7.38
25.90	146.16	146.45	146.60	146.76	146.60	0.12	9.18
30.95	147.65	148.03	148.18	148.34	148.19	0.12	10.94
35.76	148.92	149.39	149.54	149.69	149.54	0.12	12.68
40.69	150.03	150.59	150.74	150.90	150.75	0.12	14.42
45.80	151.05	151.71	151.86	152.02	151.86	0.12	16.23
50.87	151.96	152.71	152.87	153.03	152.87	0.12	18.03
55.80	152.76	153.61	153.77	153.94	153.77	0.13	19.78
60.89	153.51	154.46	154.63	154.81	154.64	0.14	21.58
65.75	154.18	155.22	155.41	155.61	155.41	0.15	23.31
70.79	154.82	155.86	156.17	156.49	156.17	0.24	25.09
75.63	155.39	156.07	156.87	157.74	156.89	0.65	26.81
80.97	155.98	156.30	157.64	159.15	157.69	1.11	28.70
85.83	156.49	156.43	158.36	160.55	158.44	1.61	30.42
90.93	156.99	156.38	159.08	162.09	159.18	2.23	32.23
95.99	157.46	156.34	159.70	163.40	159.81	2.76	34.03
100.76	157.88	156.37	160.24	164.48	160.35	3.17	35.72
105.90	158.31	156.66	161.08	165.84	161.19	3.59	37.54
110.88	159.71	157.18	162.08	167.34	162.19	3.97	39.30
115.99	159.10	157.72	163.15	168.90	163.25	4.37	41.11
120.73	159.45	158.19	164.09	170.28	164.18	4.72	42.79
125.71	159.80	158.69	165.13	171.76	165.19	5.11	44.56
130.97	160.15	159.20	166.20	173.36	166.25	5.53	46.42
135.31	160.44	159.62	167.08	174.66	167.12	5.88	47.96
135.65	160.47	159.67	167.19	174.82	167.22	5.92	48.15
140.91	160.79	160.15	168.22	176.34	168.24	6.32	49.95
144.42	161.00	161.83	170.42	178.80	170.36	6.63	DIFR
147.00	161.16	163.62	172.41	180.93	172.33	6.76	DIFR
148.00	161.21	164.31	173.19	181.76	173.09	6.82	DIFR
149.00	161.27	164.95	173.95	182.58	173.85	6.88	DIFR
150.00	161.33	165.63	174.74	183.41	174.60	6.95	DIFR
151.00	161.39	166.30	175.51	184.23	175.35	7.00	DIFR
152.00	161.45	166.97	176.29	185.08	176.13	7.07	DIFR
153.00	161.50	167.65	177.06	185.98	176.91	7.16	DIFR
154.00	161.56	168.32	177.84	186.87	177.69	7.25	DIFR
155.00	161.62	169.00	178.62	187.76	178.47	7.33	DIFR
156.00	161.67	169.69	179.39	188.65	179.25	7.41	DIFR
157.00	161.73	170.38	180.17	189.54	180.04	7.49	DIFR
158.00	161.78	171.06	180.95	190.43	180.82	7.57	DIFR
159.00	161.84	171.71	181.72	191.32	181.59	7.66	DIFR
160.00	161.89	172.36	182.50	192.21	182.37	7.75	DIFR
161.00	161.95	173.02	183.28	193.10	183.14	7.84	DIFR
162.00	162.00	173.69	184.06	193.98	183.92	7.93	DIFR
163.00	162.05	174.36	184.83	194.86	184.69	8.01	DIFR
164.00	162.11	175.03	185.61	195.74	185.47	8.09	DIFR
165.00	162.16	175.72	186.39	196.62	186.25	8.16	DIFR
166.00	162.21	176.40	187.17	197.49	187.03	8.24	DIFR

RUN NO. 83

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA H: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.69	132.90	133.12	132.90	0.16	0.35
5.06	137.20	135.91	137.36	139.09	137.45	1.25	1.80
10.43	142.19	139.78	142.46	146.32	142.83	2.57	3.71
14.34	144.73	141.96	145.10	149.91	145.62	3.13	5.11
20.83	147.83	144.81	148.37	154.12	149.06	3.67	7.42
25.90	149.68	146.65	150.35	156.51	151.12	3.90	9.23
30.85	151.17	148.17	151.98	158.41	152.80	4.05	10.99
35.76	152.44	149.50	153.38	160.01	154.24	4.16	12.74
40.69	153.55	150.69	154.63	161.42	155.52	4.24	14.49
45.80	154.57	151.79	155.79	162.67	156.69	4.30	16.31
50.87	155.48	152.79	156.85	163.80	157.75	4.35	18.12
55.80	156.28	153.70	157.80	164.81	158.71	4.39	19.88
60.89	157.04	154.58	158.72	165.78	159.63	4.43	21.69
65.75	157.70	155.37	159.55	166.66	160.46	4.46	23.42
70.79	158.34	156.14	160.37	167.55	161.29	4.51	25.21
75.63	158.91	156.84	161.13	168.39	162.06	4.56	26.94
80.57	159.50	157.59	161.06	169.32	162.89	4.63	28.84
85.83	160.01	158.21	162.75	170.23	163.67	4.75	30.57
90.93	160.51	158.67	163.54	171.25	164.43	4.86	32.39
95.99	160.98	159.03	164.24	172.17	165.09	5.17	34.19
100.76	161.40	159.34	164.85	172.96	165.66	5.35	35.89
105.90	161.83	159.98	165.82	174.09	166.58	5.54	37.72
110.88	162.23	160.76	166.92	175.36	167.63	5.73	39.49
115.99	162.62	161.56	168.08	176.68	168.73	5.92	41.31
120.73	162.97	162.28	169.13	177.85	169.71	6.10	43.00
125.71	163.32	163.03	170.27	179.10	170.76	6.29	44.7
130.97	163.68	163.82	171.47	180.45	171.08	6.50	46.65
135.85	163.99	164.51	172.56	181.71	172.90	6.73	48.39
140.91	164.31	165.21	173.74	183.08	173.99	6.98	50.19
145.77	164.60	165.79	174.81	184.52	175.03	7.32	51.92
150.55	164.88	166.33	175.94	185.13	176.12	7.73	53.62
155.55	165.17	167.01	177.02	187.40	177.14	7.97	55.40
160.79	165.46	167.73	178.23	188.82	178.26	8.24	57.27
165.69	165.72	168.39	179.28	190.11	179.26	8.49	59.01
170.41	165.96	169.02	180.31	191.32	180.22	8.71	60.70
174.98	166.19	169.64	181.33	192.53	181.17	8.94	62.32
179.90	166.24	169.76	181.53	192.78	181.37	8.99	62.65
176.57	166.27	169.85	181.67	192.97	181.51	9.03	62.89
177.48	166.31	169.98	181.92	193.30	181.75	9.11	63.21
178.06	166.34	170.06	182.04	193.45	181.86	9.14	63.42
178.48	166.36	170.11	182.12	193.55	181.94	9.15	63.57
178.81	166.38	170.16	182.18	193.63	182.00	9.17	63.69
179.07	166.39	170.19	182.23	193.69	182.05	9.18	63.78
179.28	166.40	170.22	182.27	193.74	182.09	9.19	63.86
179.45	166.41	170.24	182.31	193.78	182.12	9.19	63.92
179.51	166.41	170.25	182.32	193.79	182.13	9.20	63.94
180.18	166.44	170.34	182.44	193.95	182.26	9.22	64.18
181.00	166.48	170.49	182.64	194.18	182.45	9.26	64.47
182.55	166.56	175.71	187.94	195.54	187.74	9.31	DIFR
185.00	166.67	186.40	198.82	210.51	198.59	9.42	DIFR
186.00	166.72	190.76	203.26	214.98	203.02	9.46	DIFR
187.00	166.77	195.12	207.70	219.45	207.44	9.50	DIFR

RUN NO. 84

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOSS: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.75	132.90	133.05	132.90	0.12	0.35
5.06	137.20	137.21	137.36	137.51	137.36	0.12	1.86
10.43	142.19	142.31	142.46	142.62	142.47	0.12	3.71
14.34	144.73	144.95	145.10	145.25	145.10	0.12	5.11
20.83	147.83	148.22	148.37	148.52	148.37	0.12	7.42
25.90	149.68	150.20	150.35	150.50	150.35	0.12	9.23
30.85	151.17	151.83	151.98	152.13	151.98	0.12	10.99
35.76	152.44	153.23	153.38	153.53	153.38	0.12	12.74
40.69	153.55	154.48	154.63	154.78	154.63	0.12	14.49
45.60	154.57	155.64	155.79	155.95	155.79	0.12	16.31
50.87	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.80	156.28	157.64	157.80	157.97	157.80	0.13	19.88
60.89	157.04	158.55	158.72	158.90	158.72	0.14	21.69
65.75	157.70	159.03	159.55	160.10	159.56	0.42	23.47
70.79	158.34	159.35	160.37	161.52	160.41	0.85	25.21
75.63	158.91	159.70	161.13	162.82	161.21	1.22	26.94
80.97	159.50	160.12	161.96	164.23	162.09	1.61	28.84
85.83	160.01	160.42	162.75	165.60	162.91	2.03	30.57
90.93	160.51	160.53	163.54	167.12	163.72	2.50	32.39
95.99	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.76	161.40	160.74	164.85	169.58	165.04	3.46	35.89
105.90	161.83	161.20	165.82	171.05	166.01	3.85	37.72
110.88	162.23	161.82	166.92	172.64	167.11	4.23	39.49
115.99	162.62	162.46	168.08	174.30	168.27	4.63	41.31
120.73	162.97	163.03	169.13	175.80	169.31	4.99	43.00
125.71	163.32	163.64	170.27	177.40	170.42	5.37	44.77
130.97	163.68	164.27	171.47	179.15	171.62	5.81	46.65
135.85	163.99	164.95	172.56	180.80	172.72	6.23	48.36
140.91	164.31	165.45	173.74	182.53	173.90	6.67	50.19
145.77	164.60	165.91	174.81	184.26	174.98	7.17	51.92
150.55	164.88	166.33	175.94	186.13	176.12	7.73	53.62
155.55	165.17	167.01	177.02	187.40	177.14	7.97	55.40
160.79	165.46	167.73	178.23	188.82	178.26	8.24	57.27
165.69	165.72	168.39	179.28	190.11	179.26	8.49	59.01
170.41	165.96	169.02	180.31	191.32	180.22	8.71	60.70
174.98	166.19	169.64	181.33	192.53	181.17	8.94	62.32
179.90	166.24	169.76	181.53	192.78	181.37	8.99	62.65
176.57	166.27	169.85	181.67	192.97	181.51	9.03	62.89
177.48	166.31	169.98	181.92	193.30	181.75	9.11	63.21
178.06	166.34	170.06	182.04	193.45	181.86	9.14	63.42
178.48	166.36	170.11	182.12	193.55	181.94	9.15	63.57
178.81	166.38	170.15	182.18	193.62	182.00	9.17	63.69
178.94	166.38	170.17	182.21	193.66	182.03	9.17	63.73
179.07	166.39	170.19	182.23	193.69	182.04	9.18	63.78
179.28	166.40	170.22	182.27	193.74	182.09	9.19	63.86
179.45	166.41	170.24	182.31	193.78	182.12	9.19	63.92
180.18	166.44	170.34	182.44	193.95	182.26	9.22	64.14
181.00	166.48	171.81	183.97	195.50	183.77	9.26	64.47
181.96	166.53	175.58	187.78	199.36	187.59	9.29	DIFR
184.00	166.63	184.55	196.90	208.55	196.68	9.38	DIFR
185.00	166.67	188.93	201.36	213.04	201.13	9.47	DIFR
186.00	166.72	193.32	205.82	217.54	205.57	9.46	DIFR

RUN NO. 85

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION COEFFICIENT: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: REFRACTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	PLATE SPACE	1%	50%	90%	EXTRACTED VALUE	STD DEV	HT DIST (NMI)
0.00	132.01		132.00	133.05	132.90	0.12	0.35
0.06	137.20	137.11	137.30	137.51	137.36	0.12	1.00
10.40	142.11	142.51	142.46	142.62	142.47	0.12	3.71
14.74	144.75	144.95	145.10	145.25	145.10	0.12	5.11
20.00	147.00	146.22	148.37	148.52	148.37	0.12	7.42
26.00	149.00	150.20	150.35	150.60	150.35	0.12	9.23
30.00	151.17	151.80	151.98	152.13	151.98	0.12	10.00
35.76	152.44	153.20	153.38	153.63	153.38	0.12	12.74
40.00	153.55	154.45	154.63	154.78	154.63	0.12	14.40
45.00	154.67	155.64	155.79	155.95	155.79	0.12	16.31
50.00	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.00	156.28	157.54	157.80	157.97	157.80	0.13	19.88
60.00	157.04	158.15	158.72	158.90	158.72	0.14	21.69
65.76	157.70	159.05	159.15	160.10	159.56	0.42	23.42
70.00	158.34	159.21	161.37	161.52	160.41	0.85	25.21
75.00	158.91	159.70	161.13	162.82	161.21	1.22	26.94
80.00	159.56	160.12	161.96	164.23	162.09	1.61	28.84
85.00	160.01	160.42	162.71	165.60	162.91	2.01	30.57
90.00	160.51	160.59	163.54	167.12	163.72	2.58	32.39
95.00	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.00	161.40	160.74	164.85	169.88	165.04	3.46	35.89
105.00	161.93	161.20	165.82	171.06	166.01	3.85	37.72
110.00	162.23	161.82	166.92	172.64	167.11	4.25	39.49
115.00	162.62	162.46	168.08	174.39	168.27	4.63	41.31
120.00	162.97	163.03	169.13	175.80	169.31	4.99	43.00
125.71	163.32	163.64	170.27	177.40	170.42	5.37	44.77
130.00	163.69	164.27	171.47	179.16	171.62	5.81	46.66
135.00	163.99	164.85	172.66	180.80	172.72	6.23	48.39
140.00	164.31	165.45	173.74	182.63	173.90	6.67	50.19
145.77	164.60	165.91	174.81	184.26	174.98	7.17	51.92
150.00	164.88	166.33	175.94	186.13	176.12	7.73	53.62
155.00	165.17	167.01	177.02	187.40	177.14	7.97	55.40
160.00	165.46	167.73	178.23	188.82	178.26	8.24	57.27
165.00	165.72	168.19	179.28	190.11	179.26	8.49	59.01
170.00	165.76	168.69	179.45	190.31	179.42	8.52	59.31
175.41	165.96	169.02	180.31	191.32	180.22	8.71	60.70
180.00	166.05	169.86	181.34	192.45	181.22	8.82	62.11
185.00	166.14	170.39	182.59	193.89	182.64	8.94	63.11
190.00	166.19	170.63	191.46	195.65	191.24	8.99	64.11
195.00	166.24	182.26	194.11	197.41	193.94	9.04	65.11
200.00	166.29	184.95	196.81	198.17	195.04	9.09	66.11
205.00	166.34	187.65	199.12	199.93	196.74	9.13	67.11
210.00	166.39	190.19	202.23	201.68	197.05	9.18	68.11
215.00	166.44	192.04	204.07	204.43	199.75	9.22	69.11

RUN NO. 86

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 22000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONOPLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
0.99	132.81	132.75	132.90	133.05	132.90	0.12	0.35
5.06	137.20	137.21	137.36	137.51	137.36	0.12	1.80
10.43	142.10	142.31	142.46	142.62	142.47	0.12	3.71
14.34	144.73	144.95	145.10	145.25	145.10	0.12	5.11
20.83	147.83	148.22	148.37	148.52	148.37	0.12	7.42
25.90	149.58	150.20	150.35	150.50	150.35	0.12	9.23
30.85	151.17	151.83	151.98	152.13	151.98	0.12	10.99
35.76	152.44	153.23	153.38	153.53	153.38	0.12	12.74
40.69	153.55	154.48	154.63	154.78	154.63	0.12	14.49
45.60	154.57	155.64	155.79	155.95	155.79	0.12	16.31
60.87	155.48	156.70	156.85	157.01	156.85	0.12	18.12
55.80	156.28	157.64	157.80	157.97	157.80	0.13	19.88
60.69	157.04	158.55	158.72	158.90	158.72	0.14	21.69
65.75	157.70	159.03	159.55	160.10	159.56	0.42	23.42
70.79	158.34	159.35	160.37	161.52	160.41	0.85	25.21
75.83	158.91	159.70	161.13	162.82	161.21	1.22	26.94
80.97	159.50	160.12	161.86	164.23	162.09	1.61	28.84
85.83	160.01	160.42	162.75	165.60	162.91	2.03	30.57
90.93	160.51	160.53	163.54	167.12	163.72	2.58	32.39
95.99	160.98	160.62	164.24	168.46	164.43	3.07	34.19
100.76	161.40	160.74	164.85	169.58	165.04	3.46	35.89
105.90	161.83	161.20	165.82	171.06	166.01	3.85	37.72
110.88	162.23	161.82	166.92	172.64	167.11	4.23	39.49
115.99	162.62	162.46	168.08	174.30	168.27	4.63	41.31
120.73	162.97	163.03	169.13	175.80	169.31	4.99	43.00
125.71	163.32	163.64	170.27	177.40	170.42	5.37	44.77
130.97	163.68	164.27	171.47	179.15	171.82	5.81	46.65
136.86	163.96	164.85	172.66	180.83	172.72	6.23	48.39
136.93	164.06	164.98	172.78	181.15	172.96	6.32	48.77
140.91	164.31	165.46	173.74	182.53	173.90	6.67	50.19
144.42	164.62	167.17	175.96	185.01	176.04	6.97	DIFF
147.00	164.68	169.14	178.12	187.30	178.18	7.09	DIFF
148.00	164.74	169.86	178.96	188.19	179.00	7.16	DIFF
149.00	164.79	170.69	179.81	189.08	179.92	7.22	DIFF
150.00	164.86	171.33	180.65	189.97	180.65	7.28	DIFF
151.00	164.91	172.08	181.49	190.85	181.46	7.33	DIFF
152.00	164.97	172.83	182.34	191.77	182.31	7.37	DIFF
153.00	165.02	173.57	183.18	192.71	183.15	7.41	DIFF
154.00	165.08	174.31	184.03	193.64	183.99	7.51	DIFF
155.00	165.14	175.06	184.87	194.57	184.84	7.62	DIFF
155.50	165.19	175.81	185.71	195.51	185.68	7.69	DIFF
157.00	165.25	176.57	186.57	196.44	186.53	7.76	DIFF
158.00	165.30	177.29	187.41	197.37	187.35	7.85	DIFF
159.00	165.36	178.09	188.26	198.30	188.19	7.95	DIFF
160.00	165.41	178.79	189.11	199.26	189.94	8.02	DIFF
161.00	165.47	179.47	189.96	200.21	189.89	8.10	DIFF
162.00	165.52	180.21	190.81	201.16	190.73	8.19	DIFF
163.00	165.57	180.96	191.66	202.10	191.56	8.25	DIFF
164.00	165.63	181.71	192.51	203.07	192.43	8.32	DIFF
165.00	165.68	182.49	193.36	203.96	193.27	8.37	DIFF
166.00	165.73	183.26	194.21	204.88	194.12	8.45	DIFF

RUN NO. 87

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA E: 0 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.52	118.68	118.85	118.69	0.13	0.29
5.67	121.72	120.73	121.75	122.91	121.80	0.85	1.64
9.37	124.52	122.73	124.57	126.90	124.72	1.63	2.71
15.27	128.02	125.42	128.09	131.92	128.45	2.55	4.42
18.75	129.64	126.75	129.72	134.11	130.19	2.93	5.43
24.04	131.67	128.47	131.78	136.95	132.36	3.34	6.96
30.74	133.72	130.30	133.86	139.62	134.55	3.68	8.90
35.94	135.04	131.54	135.20	141.27	135.95	3.84	10.40
40.98	136.16	132.59	136.35	142.64	137.14	3.97	11.86
45.84	137.12	133.51	137.33	143.79	138.16	4.06	13.27
50.69	137.98	134.35	138.22	144.82	139.07	4.14	14.67
55.99	138.83	135.18	139.10	145.83	139.98	4.21	16.20
60.50	139.50	135.84	139.79	146.81	140.69	4.26	17.51
65.74	140.22	136.54	140.54	147.42	141.44	4.30	19.03
70.82	140.86	137.17	141.21	148.15	142.12	4.34	20.50
75.93	141.46	137.77	141.85	148.83	142.75	4.37	21.98
80.77	141.99	138.30	142.41	149.44	143.32	4.40	23.38
85.87	142.52	138.84	142.98	150.04	143.89	4.43	24.85
90.69	143.00	139.32	143.49	150.58	144.40	4.45	26.25
95.98	143.49	139.83	144.02	151.15	144.94	4.48	27.78
100.64	143.90	140.26	144.47	151.63	145.39	4.50	29.13
105.64	144.32	140.70	144.95	152.14	145.87	4.52	30.57
110.98	144.74	141.14	145.45	152.70	146.37	4.57	32.12
115.82	145.11	141.46	145.92	153.26	146.82	4.66	33.52
121.00	145.49	141.82	146.42	153.95	147.27	4.86	35.02
125.92	145.84	141.85	146.83	154.57	147.63	5.08	36.44
130.87	146.17	141.83	147.36	155.28	148.10	5.11	37.88
135.77	146.49	142.36	147.87	156.22	148.87	5.44	39.29
140.94	146.82	142.91	149.04	157.19	149.67	5.60	40.79
145.89	147.12	143.39	149.77	158.01	150.35	5.73	42.27
150.97	147.41	143.90	150.61	158.88	151.10	5.86	43.69
155.79	147.69	144.35	151.32	159.64	151.74	5.98	45.09
160.72	147.96	144.80	152.09	160.43	152.42	6.11	46.52
165.87	148.23	145.25	152.87	161.17	153.08	6.22	48.00
170.90	148.49	145.66	153.60	161.87	153.70	6.33	49.46
176.87	148.74	146.06	154.37	162.56	154.33	6.45	50.90
180.99	148.90	146.43	155.05	163.35	154.95	6.61	52.38
185.91	149.22	146.81	155.83	164.14	155.61	6.77	53.81
190.08	149.41	147.09	156.39	164.80	156.11	6.72	55.01
190.90	149.45	147.15	156.51	164.93	156.72	6.95	56.27
195.94	149.67	147.51	157.20	165.68	157.79	7.06	56.71
198.33	149.78	147.67	157.55	165.99	157.10	7.15	57.40
201.00	149.90	147.83	157.91	166.50	157.44	7.30	58.17
202.85	149.97	147.92	158.22	166.82	157.65	7.39	58.65
205.33	150.08	148.05	158.44	167.34	157.90	7.54	59.43
206.06	150.11	148.09	158.52	167.47	158.06	7.58	59.62
207.17	150.16	148.15	158.65	167.69	158.19	7.64	59.96
208.52	150.21	148.21	158.85	167.95	158.38	7.73	60.35
209.56	150.26	148.26	159.00	168.22	158.53	7.81	60.65
210.39	150.29	148.30	159.12	168.41	158.64	7.86	60.89
211.00	150.32	148.33	159.26	168.54	158.72	7.90	61.07
211.06	150.32	148.34	159.27	168.55	158.73	7.93	61.09
212.54	150.42	148.46	159.55	169.04	159.94	8.04	61.90

213.68	150.43	148.47	152.57	169.09	159.07	8.06	61.84
215.94	150.52	150.86	162.20	171.95	161.70	8.25	62.50
220.84	150.71	156.98	168.58	178.56	168.07	8.44	DIFR
223.00	150.80	161.74	173.45	183.51	172.93	8.51	DIFR
224.00	150.84	163.94	175.70	185.79	175.18	8.55	DIFR
225.00	150.87	166.15	177.95	188.08	177.43	8.58	DIFR
226.00	150.91	168.33	180.20	190.36	179.57	8.62	DIFR
227.00	150.95	170.51	182.45	192.65	181.90	8.66	DIFR
228.00	150.99	172.69	184.70	194.93	184.14	8.70	DIFR
229.00	151.03	174.88	186.95	197.21	186.38	8.73	DIFR

RUN NO. 88

JOHNSON & GIERHART
 AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC
 FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE: ISOTROPIC
 HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI
 TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI
 CLIMATE: DESERT
 SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

FREQUENCY: 2 GHz
 POLARIZATION: CIRCULAR
 TERRAIN ELEVATION AT SITE: 0 FT
 OBSTACLE HT: DETERMINED 4 FT ABOVE MSL
 MINIMUM MONTHLY MEAN: 280 N-UNITS
 SURFACE TYPE: POOR GROUND
 TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.53	118.68	118.84	118.68	0.12	0.28
5.67	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.64	129.57	129.72	129.88	129.73	0.12	5.43
24.04	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.90
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
40.98	136.16	136.20	136.35	136.50	136.35	0.12	11.86
45.84	137.12	137.18	137.33	137.49	137.33	0.12	13.27
50.69	137.98	138.07	138.22	138.37	138.22	0.12	14.87
55.99	138.83	138.95	139.10	139.26	139.10	0.12	16.20
60.50	139.50	139.64	139.79	139.95	139.80	0.12	17.51
65.74	140.22	140.39	140.54	140.70	140.54	0.12	19.03
70.82	140.88	141.06	141.21	141.38	141.22	0.13	20.50
75.93	141.46	141.69	141.85	142.02	141.85	0.13	21.98
80.77	141.99	142.24	142.41	142.59	142.42	0.14	23.38
85.87	142.52	142.78	142.98	143.18	142.98	0.16	24.85
90.69	143.00	143.26	143.49	143.72	143.49	0.18	26.26
95.95	143.48	143.73	144.02	144.31	144.02	0.21	27.78
100.64	143.90	144.11	144.47	144.84	144.47	0.29	29.13
105.64	144.32	144.44	144.95	145.45	144.95	0.33	30.57
110.98	144.74	144.65	145.45	146.23	145.44	0.62	32.12
116.82	145.11	144.57	145.92	147.21	145.90	1.03	33.52
121.00	145.49	144.21	146.42	148.49	146.38	1.67	35.02
125.92	145.84	143.90	146.83	149.51	146.75	2.19	36.44
130.87	146.17	143.87	147.36	150.45	147.23	2.57	37.88
135.77	146.49	144.22	148.17	151.66	148.03	2.91	39.29
140.94	146.82	144.55	149.04	152.91	148.85	3.28	40.79
146.89	147.12	144.83	149.77	154.07	149.57	3.81	42.22
150.97	147.41	145.11	150.61	155.33	150.36	4.00	43.69
156.78	147.69	145.35	151.32	156.47	151.07	4.35	45.09
160.72	147.96	145.60	152.09	157.73	151.83	4.74	46.52
165.87	148.23	145.86	152.87	159.01	152.60	5.14	48.00
170.90	148.49	146.11	153.60	160.24	153.33	5.52	49.46
175.87	148.74	146.35	154.37	161.48	154.09	5.91	50.90
180.99	148.99	146.60	155.05	162.74	154.81	6.31	52.38
185.91	149.22	146.84	155.83	164.02	155.68	6.71	53.91
190.08	149.41	147.05	156.39	164.97	156.15	7.00	55.01
190.98	149.45	147.09	156.51	165.16	156.27	7.06	55.27
195.94	149.67	147.35	157.20	166.24	156.95	7.38	56.71
198.33	149.78	147.48	157.55	166.80	157.30	7.55	57.40
201.00	149.90	147.61	157.91	167.38	157.66	7.71	58.17
202.65	149.97	147.72	158.12	167.67	157.86	7.80	58.65
205.33	150.08	147.88	158.44	168.12	158.17	7.91	59.43
206.00	150.11	147.92	158.62	168.20	158.23	7.92	59.62
207.17	150.16	148.01	158.65	168.24	158.34	7.92	59.96
208.57	150.21	148.11	158.84	168.45	158.49	7.95	60.36
209.66	150.26	148.18	159.00	168.59	158.62	7.98	60.66
210.39	150.29	148.24	159.12	168.70	158.71	8.00	60.89
211.06	150.32	148.28	159.20	168.77	158.78	8.02	61.07
211.06	150.32	148.28	159.21	168.80	158.79	8.02	61.09
213.05	150.40	148.40	159.48	169.10	159.07	8.09	61.65

213.68	150.43	148.44	159.57	169.20	159.10	8.12	61.84
215.94	150.52	150.53	161.88	171.68	161.40	8.27	62.50
220.25	150.69	156.74	168.33	178.02	167.83	8.44	DIFR
223.00	150.80	162.87	174.59	184.69	174.08	8.53	DIFR
224.00	150.84	165.10	176.87	187.01	176.36	8.56	DIFR
225.00	150.87	167.34	179.15	189.32	178.64	8.60	DIFR
226.00	150.91	169.55	181.43	191.63	180.90	8.64	DIFR
227.00	150.95	171.75	183.70	193.94	183.17	8.68	DIFR
228.00	150.99	173.97	185.98	196.25	185.44	8.71	DIFR

RUN NO. 89

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE: ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.53	118.68	118.84	118.68	0.12	0.29
5.67	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.64	129.57	129.72	129.88	129.73	0.12	5.43
24.64	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.99
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
40.98	136.16	136.20	136.35	136.50	136.35	0.12	11.86
45.84	137.12	137.18	137.33	137.49	137.33	0.12	13.27
50.69	137.98	138.07	138.22	138.37	138.22	0.12	14.67
55.99	138.83	138.95	139.10	139.26	139.10	0.12	16.20
60.50	139.50	139.64	139.79	139.95	139.80	0.12	17.51
65.74	140.22	140.39	140.54	140.70	140.54	0.12	19.03
70.82	140.86	141.06	141.21	141.38	141.22	0.13	20.50
75.93	141.45	141.69	141.85	142.02	141.85	0.13	21.98
80.77	141.99	142.24	142.41	142.59	142.42	0.14	23.38
85.87	142.52	142.78	142.98	143.19	142.98	0.16	24.85
90.69	143.00	143.26	143.49	143.72	143.49	0.18	26.25
95.96	143.49	143.73	143.92	144.31	144.02	0.23	27.79
100.64	143.90	144.11	144.47	144.84	144.47	0.29	29.13
105.64	144.32	144.44	144.95	145.45	144.95	0.39	30.57
110.98	144.74	144.65	145.45	146.23	145.44	0.62	32.12
116.82	145.11	144.57	145.92	147.21	145.90	1.03	33.52
121.00	145.49	144.21	146.42	148.49	146.38	1.67	35.02
125.92	145.84	143.90	146.83	149.51	146.75	2.19	36.44
130.87	146.17	143.87	147.36	150.45	147.23	2.57	37.88
135.77	146.49	144.22	148.17	151.66	148.03	2.91	39.28
140.94	146.82	144.55	149.04	152.93	148.85	3.28	40.79
145.89	147.12	144.83	149.77	154.07	149.57	3.61	42.22
150.97	147.41	145.11	150.61	155.33	150.36	4.00	43.69
155.79	147.69	145.35	151.32	156.47	151.07	4.35	45.09
160.72	147.96	145.60	152.09	157.73	151.83	4.74	46.52
165.87	148.23	145.86	152.87	159.01	152.60	5.14	48.00
170.90	148.49	146.11	153.60	160.24	153.33	5.52	49.48
175.87	148.74	146.35	154.37	161.48	154.09	5.91	50.90
180.99	148.99	146.59	155.05	162.74	154.81	6.31	52.38
185.91	149.22	146.84	155.83	164.02	155.58	6.71	53.81
190.88	149.41	147.05	156.39	164.97	156.15	7.00	55.01
195.94	149.45	147.09	156.51	165.16	156.27	7.06	55.27
199.94	149.67	147.35	157.20	166.24	156.95	7.38	56.71
198.33	149.78	147.48	157.55	166.80	157.30	7.56	57.40
201.00	149.90	147.63	157.91	167.36	157.85	7.71	58.17
202.65	149.97	147.72	158.12	167.67	157.88	7.80	58.66
205.33	150.08	147.88	158.44	168.12	158.17	7.91	59.43
206.09	150.11	147.92	158.52	168.20	158.23	7.92	59.67
207.17	150.16	148.01	158.65	168.29	158.34	7.97	59.96
207.17	150.16	148.01	158.65	168.29	158.34	7.97	59.96
208.62	150.21	148.11	158.85	168.46	158.50	7.95	60.35
209.56	150.26	151.99	162.81	172.41	162.47	7.98	60.85
209.57	150.26	151.99	162.83	172.50	162.44	8.05	DIFF
212.00	150.36	157.30	168.42	178.16	167.99	8.15	DIFF
213.00	150.40	169.53	175.71	186.49	176.27	8.19	DIFF

214.00	150.44	161.76	173.01	182.81	172.56	8.23	DIFR
215.00	150.48	163.99	175.31	185.15	174.85	8.27	DIFR
216.00	150.52	166.23	177.60	187.50	177.14	8.32	DIFR
217.00	150.56	168.47	179.90	189.84	179.43	8.36	DIFR

RUN NO. 90

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL TYPE ISOTROPIC

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL TYPE ISOTROPIC

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE HT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.53	118.68	118.84	118.68	0.12	0.29
5.87	121.72	121.60	121.75	121.91	121.75	0.12	1.64
9.37	124.52	124.42	124.57	124.72	124.57	0.12	2.71
15.27	128.02	127.94	128.09	128.25	128.09	0.12	4.42
18.75	129.64	129.57	129.72	129.88	129.73	0.12	5.43
24.04	131.67	131.63	131.78	131.93	131.78	0.12	6.96
30.74	133.72	133.71	133.86	134.01	133.86	0.12	8.90
35.94	135.04	135.06	135.20	135.36	135.21	0.12	10.40
40.98	136.16	136.20	136.35	136.50	136.35	0.12	11.86
45.84	137.12	137.18	137.33	137.49	137.33	0.12	13.27
50.69	137.98	138.07	138.22	138.37	138.22	0.12	14.67
55.99	138.63	138.95	139.10	139.26	139.10	0.12	16.20
60.50	139.50	139.64	139.79	139.95	139.80	0.12	17.51
65.74	140.22	140.39	140.54	140.70	140.54	0.12	19.03
70.82	140.86	141.06	141.21	141.38	141.22	0.13	20.50
75.93	141.46	141.69	141.85	142.02	141.85	0.13	21.98
80.77	141.99	142.24	142.41	142.59	142.42	0.14	23.38
85.87	142.52	142.78	142.98	143.18	142.99	0.16	24.85
90.69	143.00	143.26	143.49	143.72	143.49	0.18	26.25
95.98	143.49	143.73	144.02	144.31	144.02	0.23	27.78
100.64	143.90	144.11	144.47	144.84	144.47	0.29	29.13
105.64	144.32	144.44	144.95	145.45	144.95	0.39	30.57
110.98	144.74	144.65	145.45	146.23	145.44	0.62	32.12
115.82	145.11	144.57	145.92	147.21	145.90	1.03	33.52
121.00	145.49	144.71	146.42	148.49	146.38	1.67	35.02
125.92	145.84	143.90	146.83	149.51	146.75	2.19	36.44
130.87	146.17	143.87	147.36	150.45	147.23	2.67	37.88
135.77	146.49	144.22	148.17	151.66	148.03	2.91	39.29
140.94	146.82	144.55	149.04	152.93	148.85	3.28	40.79
145.89	147.12	144.83	149.77	154.07	149.57	3.61	42.22
150.97	147.41	145.11	150.61	155.33	150.38	4.00	43.69
155.79	147.69	145.35	151.32	156.47	151.07	4.35	45.09
160.72	147.96	145.60	152.09	157.73	151.83	4.74	46.62
163.87	148.12	145.76	152.58	158.53	152.31	4.99	47.43
165.87	148.23	145.86	152.87	159.02	152.66	5.15	48.00
170.90	148.49	146.09	153.60	160.29	153.35	5.55	49.46
176.87	148.74	147.83	156.87	163.08	155.01	5.96	50.90
180.99	148.69	160.23	158.73	166.58	156.52	6.39	52.38
182.16	149.04	160.56	159.38	167.42	159.14	6.59	DIFF
185.00	149.10	152.59	161.67	169.83	161.38	6.73	DIFF
188.00	149.22	153.32	162.47	170.67	162.17	6.78	DIFF
187.00	149.27	154.05	163.28	171.61	162.97	6.83	DIFF
188.00	149.32	164.78	164.08	172.36	163.75	6.87	DIFF
189.00	149.36	165.52	164.89	173.20	164.56	6.91	DIFF
190.00	149.41	166.26	165.69	174.04	165.35	6.95	DIFF
191.00	149.45	167.00	166.50	174.88	166.15	6.99	DIFF
192.00	149.50	167.74	167.30	175.72	166.95	7.03	DIFF
193.00	149.54	168.49	168.11	176.56	167.74	7.06	DIFF
194.00	149.59	169.21	168.91	177.39	168.53	7.11	DIFF
195.00	149.63	169.92	169.72	178.23	169.32	7.16	DIFF
196.00	149.68	170.62	170.52	179.07	170.11	7.21	DIFF
197.00	149.72	181.35	171.33	179.92	170.91	7.28	DIFF
198.00	149.77	182.06	172.13	180.90	171.73	7.35	DIFF

JOHNSON & ORBHAART

AIRCRAFT ALTITUDE 3300 FT ABOVE MSL

FACILITY ANTENNA HEIGHT 3 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE DETERMINED AT 3.4 NM

TERRAIN ELEVATION 6 FT REFRACTIVITY 121.35 EFFECTIVE EARTH RADIUS 4275 NM

CLIMATE DESERT

SURFACE REFLECTION LOSS

CONTRIBUTES TO VARIABILITY

TIME AVAILABLE FOR INSTANTANEOUS (FV) SELECTED

RUN NO. 91

FREQUENCY 2012

POLARIZATION CIRCULAR

TERRAIN ELEVATION AT SITE 6 FT

DIST DETERMINED AT 3 FT ABOVE MSL

MINIMUM MONTHLY MEAN 205 K UNITS

SURFACE TYPE DROCK GROUND

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXTRACTED VALUE	STD DEV	DIST (NM)
1.00	118.56	118.62	118.69	118.86	118.60	0.13	0.29
5.66	121.72	120.73	121.76	122.91	121.80	0.85	1.66
9.37	124.62	122.73	124.67	126.90	124.72	1.63	2.75
16.26	128.02	125.42	128.09	131.92	128.46	2.86	4.48
18.75	129.64	126.76	129.72	134.18	130.19	2.93	6.61
24.05	131.67	128.48	131.78	138.90	132.36	3.34	7.06
30.74	133.77	130.30	133.66	139.67	134.55	3.80	9.09
35.95	135.04	131.64	135.21	141.27	135.95	3.85	10.66
40.98	136.16	132.60	136.35	142.64	137.14	3.97	12.04
46.84	137.12	133.61	137.33	143.79	138.16	4.06	13.46
50.69	137.98	134.35	138.22	144.82	139.07	4.14	14.89
55.98	138.83	135.18	139.10	146.83	139.98	4.21	16.44
60.60	139.50	135.84	139.80	146.61	140.69	4.26	17.77
65.75	140.22	136.64	140.64	147.42	141.44	4.31	19.31
70.82	140.86	137.17	141.21	148.15	142.12	4.34	20.80
75.93	141.46	137.77	141.85	148.83	142.76	4.38	22.30
80.77	141.99	138.30	142.41	149.44	143.32	4.40	23.72
85.87	142.62	138.84	142.98	150.04	143.89	4.41	25.22
90.64	143.00	139.32	143.49	150.68	144.40	4.46	26.63
95.99	143.49	139.80	144.02	151.16	144.94	4.48	28.19
100.14	143.86	140.21	144.42	151.68	145.34	4.50	29.41
100.94	143.92	140.20	144.60	151.66	145.42	4.50	29.64
106.80	144.33	140.79	144.96	152.06	145.87	4.46	31.07
110.97	144.74	141.41	145.46	152.31	146.33	4.31	32.69
115.82	145.12	141.92	145.92	152.36	146.68	4.12	34.01
121.00	145.49	142.27	146.41	152.38	146.98	3.97	35.63
126.00	145.85	142.63	146.83	152.27	147.17	3.80	37.00
128.05	145.86	142.63	146.83	152.22	147.17	3.78	37.32
130.87	146.17	143.03	147.48	152.30	147.60	3.64	38.43
135.78	146.49	143.73	148.32	152.86	148.30	3.57	39.87
140.95	146.82	144.32	149.17	153.81	149.04	3.63	41.39
142.99	146.84	144.61	149.49	153.94	149.37	3.69	41.99
145.92	147.12	144.76	149.96	154.51	149.76	3.61	42.85
150.90	147.41	145.11	150.78	155.68	150.61	4.09	44.34
154.71	147.63	145.34	151.37	156.40	151.04	4.32	45.43
156.96	147.79	145.42	151.60	156.68	151.22	4.40	45.60
160.94	147.97	145.70	152.77	157.91	152.00	4.77	47.26
163.23	148.00	145.83	152.66	158.47	152.33	4.93	47.94
166.98	148.24	146.98	153.04	159.67	152.70	6.10	48.74
169.70	148.43	146.17	153.84	159.77	153.27	6.38	49.64
170.98	148.49	146.26	153.85	160.17	153.46	6.46	50.21
174.76	148.68	146.46	154.40	161.36	154.00	6.71	51.32
176.99	148.74	146.67	154.67	161.34	154.17	6.80	51.68
178.81	148.88	146.86	154.95	161.97	154.68	6.99	52.61
181.06	148.99	146.78	155.77	162.62	154.90	6.16	53.16
182.13	149.04	146.84	155.49	162.79	155.07	6.24	53.49
185.90	149.22	147.06	156.03	163.61	155.99	6.48	54.69
190.90	149.45	148.67	157.60	165.87	157.44	6.76	56.66
194.72	149.62	149.00	159.66	167.87	159.17	7.03	57.19
196.98	149.60	150.43	160.29	168.62	159.81	7.11	57.56
201.00	149.99	153.06	163.26	172.09	162.78	7.43	59.03
205.91	150.11	156.63	167.17	176.28	165.69	7.72	60.47

206.00	150.11	156.60	167.25	176.36	166.77	7.73	60.50
211.00	150.32	160.76	171.84	181.29	171.33	8.03	61.97
216.46	150.56	164.46	175.95	185.81	175.44	8.35	63.27
217.67	150.69	166.25	177.85	187.81	177.34	8.45	DIFR
220.00	150.88	171.64	183.41	193.47	182.89	8.52	DIFR
221.00	150.72	173.80	185.66	195.75	185.14	8.55	DIFR
222.00	150.76	176.09	187.91	198.04	187.38	8.58	DIFR
223.60	150.86	178.27	190.16	200.32	189.62	8.62	DIFR
224.00	150.84	180.46	192.41	202.61	191.86	8.66	DIFR
225.00	150.87	182.64	194.66	204.89	194.10	8.70	DIFR

RUN NO. 92

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

TYPE: ISOTROPIC

FREQUENCY: 2 GHz

POLARIZATION: CIRCULAR

FACILITY ANTENNA HEIGHT: 3 FT ABOVE MSL

TYPE: ISOTROPIC

TERRAIN ELEVATION AT SITE: 0 FT

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

OBST ITT: DETERMINED AT 4 FT ABOVE MSL

TERRAIN DELTA: 50 FT

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4425 NMI

MINIMUM MONTHLY MEAN: 280 N-UNITS

CLIMATE: DESERT

SURFACE TYPE: POOR GROUND

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	118.66	118.54	118.69	118.84	118.69	0.12	0.29
5.66	121.72	121.61	121.75	121.91	121.76	0.12	1.66
9.27	124.52	124.42	124.57	124.72	124.57	0.12	2.75
15.26	128.02	127.94	128.08	128.25	128.09	0.12	4.48
18.75	129.64	129.57	129.72	129.88	129.73	0.12	5.51
24.05	131.67	131.63	131.78	131.93	131.78	0.12	7.06
30.74	133.72	133.71	133.86	134.01	133.86	0.12	9.03
35.95	135.04	135.06	135.21	135.36	135.21	0.12	10.56
40.98	136.16	136.20	136.35	136.50	136.35	0.12	12.04
45.84	137.12	137.18	137.33	137.49	137.33	0.12	13.46
50.69	137.98	138.07	138.22	138.37	138.22	0.12	14.89
55.98	138.83	138.95	139.10	139.26	139.10	0.12	16.44
60.50	139.50	139.64	139.80	139.95	139.80	0.12	17.77
65.75	140.22	140.39	140.54	140.70	140.54	0.12	19.31
70.82	140.86	141.06	141.21	141.38	141.22	0.13	20.80
75.93	141.46	141.68	141.85	142.02	141.85	0.13	22.30
80.77	141.98	142.24	142.41	142.59	142.42	0.14	23.72
85.87	142.52	142.78	142.98	143.18	142.98	0.16	25.22
90.69	143.00	143.25	143.42	143.73	143.49	0.19	26.63
95.99	143.49	143.73	144.02	144.32	144.02	0.23	28.19
100.14	143.86	144.06	144.42	144.73	144.43	0.28	29.41
100.94	143.92	144.12	144.50	144.88	144.50	0.30	29.64
105.80	144.33	144.44	144.95	145.48	144.96	0.40	31.07
110.97	144.74	144.83	145.45	146.24	145.44	0.63	32.59
115.62	145.12	144.52	145.92	147.24	145.89	1.06	34.01
121.00	145.49	144.14	146.41	148.53	146.36	1.72	35.53
126.00	145.85	143.79	146.83	149.57	146.74	2.26	37.00
126.05	145.85	143.78	146.83	149.58	146.74	2.27	37.02
130.87	146.17	143.87	147.46	150.64	147.33	2.65	38.43
135.78	146.49	144.22	148.32	151.91	148.16	3.01	39.87
140.95	146.82	144.55	149.17	153.16	148.98	3.37	41.39
147.99	146.94	144.68	149.48	153.63	149.28	3.50	41.99
147.92	147.12	144.84	149.95	154.35	149.73	3.72	42.35
150.98	147.41	145.11	150.78	155.58	150.51	4.09	44.34
154.71	147.63	145.31	151.32	156.47	151.05	4.37	45.43
155.96	147.70	145.37	151.50	156.77	151.23	4.46	45.80
160.94	147.97	145.63	152.32	158.08	152.03	4.87	47.26
163.23	148.09	145.75	152.66	158.64	152.37	5.04	47.94
165.96	148.24	145.88	153.04	159.28	152.75	5.24	48.74
169.70	148.43	146.07	153.64	160.23	153.33	5.54	49.84
170.96	148.49	146.13	153.85	160.55	153.53	5.64	50.21
174.75	148.84	146.32	154.40	161.49	154.09	5.93	51.32
175.93	148.74	146.36	154.57	161.79	154.27	6.03	51.68
178.81	149.88	146.51	154.95	162.49	154.67	6.24	52.51
181.06	148.99	146.62	155.32	163.08	155.03	6.43	53.15
182.13	149.54	146.68	155.49	163.38	155.26	6.53	53.49
185.96	149.22	146.87	156.03	164.28	155.74	6.81	54.59
190.90	149.45	147.11	156.68	165.36	156.41	7.14	56.01
194.72	149.62	147.31	157.27	166.32	156.99	7.43	57.19
195.98	149.18	147.38	157.45	166.62	157.17	7.52	57.56
201.06	149.90	147.64	158.10	167.68	157.62	7.83	59.07
203.60	150.61	148.01	158.62	168.34	158.34	7.94	59.79

206.00	150.11	150.91	161.69	171.37	161.34	8.00	60.50
211.00	150.32	156.98	168.10	177.68	167.62	8.10	61.97
212.61	150.38	158.83	170.16	179.90	169.67	8.24	DIFR
215.00	150.48	165.78	177.25	187.10	176.74	8.34	DIFR
216.00	150.52	168.69	180.21	190.11	179.70	8.38	DIFR
217.00	150.56	171.59	183.17	193.11	182.66	8.41	DIFR
218.00	150.60	174.50	186.13	196.11	185.62	8.45	DIFR
219.00	150.64	177.41	189.09	199.11	188.57	8.49	DIFR
220.00	150.68	180.32	192.05	202.11	191.53	8.52	DIFR

RUN NO. 93

JOINSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFP DIST (NMI)
1.00	126.62	126.49	126.66	126.83	126.66	0.13	0.29
6.67	129.68	128.71	129.73	130.89	129.77	0.85	1.66
9.37	132.48	130.72	132.56	134.88	132.71	1.63	2.75
15.27	135.98	133.42	136.09	139.92	136.45	2.55	4.48
18.75	137.60	134.76	137.73	142.19	138.20	2.93	5.50
24.04	139.62	136.50	139.80	144.98	140.39	3.34	7.06
30.74	141.68	138.34	141.90	147.67	142.59	3.66	9.02
35.94	143.00	139.59	143.26	149.33	144.01	3.84	10.55
40.98	144.12	140.67	144.42	150.71	145.21	3.97	12.03
45.84	145.07	141.60	145.41	151.88	146.24	4.06	13.46
50.69	145.94	142.45	146.32	152.82	147.17	4.14	14.88
55.99	146.79	143.30	147.22	153.95	148.09	4.21	16.43
60.50	147.46	143.97	147.92	154.74	148.81	4.26	17.76
65.74	148.18	144.68	148.68	155.56	149.58	4.30	19.30
70.82	148.82	145.33	149.37	156.31	150.28	4.34	20.79
75.93	149.42	145.95	150.02	157.01	150.93	4.37	22.29
80.77	149.95	146.50	150.61	157.63	151.52	4.40	23.71
85.87	150.48	147.05	151.19	158.25	152.10	4.43	25.21
90.69	150.96	147.55	151.71	158.81	152.63	4.45	26.62
95.98	151.45	148.07	152.27	159.40	153.18	4.48	28.17
100.64	151.86	148.52	152.74	159.90	153.66	4.50	29.54
105.64	152.28	148.98	153.23	160.43	154.15	4.52	31.01
110.98	152.70	149.44	153.76	161.00	154.67	4.57	32.58
115.82	153.07	149.77	154.25	161.59	155.14	4.67	34.00
121.00	153.45	149.92	154.76	162.33	155.61	4.89	35.52
125.92	153.80	149.93	155.20	162.99	155.99	5.14	36.96
130.87	154.13	150.23	155.86	163.85	156.60	5.35	38.42
135.77	154.45	150.79	156.74	164.90	157.43	5.54	39.85
140.94	154.78	151.34	157.62	165.91	158.25	5.71	41.37
145.89	155.07	151.85	158.42	166.80	158.98	5.85	42.82
150.97	155.37	152.38	159.27	167.70	159.75	5.99	44.31
155.79	155.64	152.84	159.99	168.51	160.42	6.13	45.73
160.72	155.91	153.34	160.85	169.40	161.17	6.28	47.18
165.87	156.19	153.81	161.62	170.23	161.87	6.42	48.69
170.90	156.45	154.26	162.46	171.03	162.57	6.55	50.17
175.87	156.70	154.66	163.20	171.85	163.24	6.71	51.62
180.97	156.94	155.07	164.00	172.75	163.94	6.91	53.12
185.69	157.17	155.43	164.72	173.81	164.60	7.11	54.51
190.58	157.39	155.77	165.38	174.47	165.22	7.31	55.94
195.66	157.62	156.11	166.20	175.56	165.97	7.60	57.43
200.97	157.85	156.44	166.93	176.73	166.71	7.93	58.99
205.32	158.04	156.69	167.51	177.65	167.20	8.19	60.27
206.00	158.07	156.73	167.61	177.79	167.39	8.23	60.47
209.07	158.20	156.87	168.07	178.53	167.84	8.46	61.37
210.98	158.28	156.95	168.34	178.99	168.11	8.61	61.93
211.06	158.28	156.95	168.35	179.01	168.12	8.62	61.95
212.33	158.33	157.00	168.52	179.33	168.30	8.73	62.33
213.22	158.37	157.03	168.64	179.57	168.43	8.81	62.59
213.88	158.39	157.05	168.73	179.77	168.53	8.88	62.76
214.40	158.41	157.06	168.81	179.92	168.61	8.93	62.83
214.82	158.43	157.07	168.87	180.05	168.68	8.98	63.06
215.17	158.45	157.08	168.92	180.17	168.74	9.02	63.16

216.00	158.48	157.10	169.08	180.47	168.90	9.13	63.40
216.04	158.48	157.11	169.08	180.48	168.90	9.13	63.41
216.56	158.50	157.14	169.14	180.57	168.96	9.15	63.57
220.84	158.67	163.74	175.94	187.52	175.75	9.29	
222.00	158.76	170.21	182.54	194.18	182.32	9.37	
224.00	158.80	173.19	185.59	197.26	185.36	9.40	
225.00	158.83	176.17	188.64	200.33	188.40	9.44	
226.00	158.87	179.16	191.68	203.41	191.43	9.47	
227.00	158.91	182.15	194.73	206.48	194.47	9.51	
228.00	158.95	185.14	197.78	209.55	197.51	9.54	

RUN NO. 94

JOHNSON, GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

TYPE: ISOTROPIC

FREQUENCY: 3 GHz

FACTOR: ANTENNA HEIGHT: 20 FT ABOVE MSL

TYPE: ISOTROPIC

TERRAIN ELEVATION AT SITE: 0 FT

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

CLEARANCE DETERMINED AT 4 FT ABOVE MSL

TERRAIN DELTA h: 0 FT

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

MINIMUM MONTHLY MEAN: 280 N UNITS

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV
1.00	126.62	126.51	126.66	126.81	126.66	0.12
5.67	129.68	129.58	129.73	129.89	129.73	0.12
9.37	132.48	132.41	132.56	132.71	132.56	0.12
15.27	135.98	135.94	136.09	136.25	136.10	0.12
18.75	137.60	137.59	137.73	137.89	137.74	0.12
24.04	139.62	139.65	139.80	139.95	139.80	0.12
30.74	141.66	141.75	141.90	142.05	141.90	0.12
35.94	143.00	143.11	143.26	143.42	143.26	0.12
40.98	144.12	144.27	144.42	144.57	144.42	0.12
45.84	145.07	145.26	145.41	145.57	145.42	0.12
50.69	145.94	146.17	146.32	146.47	146.32	0.12
55.99	146.79	147.06	147.22	147.37	147.22	0.12
60.50	147.46	147.77	147.92	148.08	147.92	0.12
65.74	148.18	148.53	148.68	148.84	148.69	0.12
70.82	148.82	149.22	149.37	149.54	149.38	0.13
75.93	149.42	149.86	150.02	150.20	150.03	0.13
80.77	149.95	150.43	150.61	150.79	150.61	0.14
85.87	150.46	151.00	151.19	151.39	151.19	0.15
90.69	150.96	151.50	151.71	151.94	151.72	0.17
95.90	151.45	152.00	152.27	152.54	152.27	0.21
100.64	151.86	152.43	152.74	153.08	152.74	0.27
105.64	152.28	152.75	153.23	153.70	153.23	0.37
110.98	152.70	152.97	153.76	154.51	153.75	0.60
115.82	153.07	152.85	154.25	155.56	154.22	1.06
121.00	153.45	152.40	154.76	156.99	154.72	1.79
125.92	153.80	152.01	155.20	158.16	155.13	2.40
130.87	154.13	152.04	155.86	159.39	155.77	2.87
135.77	154.45	152.36	156.74	160.81	156.64	3.30
140.94	154.78	152.70	157.62	162.18	157.51	3.70
145.89	155.07	153.02	158.42	163.42	158.30	4.06
150.97	155.37	153.36	159.27	164.69	159.12	4.43
155.79	155.64	153.67	159.99	165.84	159.84	4.75
160.72	155.91	153.99	160.85	167.12	160.66	5.13
165.87	156.19	154.32	161.62	168.30	161.43	5.46
170.90	156.45	154.65	162.46	169.52	162.22	5.81
175.87	156.70	154.96	163.20	170.68	162.96	6.14
180.97	156.94	155.27	164.00	171.93	163.75	6.51
185.69	157.17	155.55	164.72	173.07	164.47	6.85
190.58	157.39	155.83	165.38	174.15	165.14	7.16
195.66	157.62	156.13	166.20	175.49	165.95	7.56
200.97	157.85	156.41	166.93	176.86	166.75	7.93
205.33	158.04	156.62	167.51	177.84	167.33	8.29
209.00	158.07	156.65	167.61	178.00	167.43	8.34
209.07	158.20	156.77	168.07	178.78	167.89	8.60
210.98	158.28	156.86	168.34	179.21	168.15	8.73
211.06	158.28	156.86	168.35	179.22	168.16	8.74
212.33	158.33	156.93	168.52	179.50	168.33	8.82
213.22	158.37	156.98	168.64	179.71	168.40	8.86
213.88	158.39	157.01	168.73	179.88	168.55	8.95
214.15	158.40	157.03	168.81	180.01	168.63	8.98
214.40	158.41	157.04	168.87	180.12	168.69	9.01
214.82	158.43	157.06	168.92	180.22	168.75	9.05

RUN NO. 95

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: GPT

OBST IT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	126.62	126.51	126.66	126.61	126.66	0.12	0.29
5.67	129.68	129.58	129.73	129.89	129.73	0.12	1.66
9.37	132.48	132.41	132.56	132.71	132.56	0.12	2.75
15.27	135.98	135.94	136.09	136.25	136.10	0.12	4.48
18.75	137.60	137.59	137.73	137.89	137.74	0.12	5.50
24.04	139.62	139.65	139.80	139.95	139.80	0.12	7.06
30.74	141.68	141.75	141.90	142.05	141.90	0.12	9.02
35.94	143.00	143.11	143.26	143.42	143.26	0.12	10.55
40.98	144.12	144.27	144.42	144.57	144.42	0.12	12.03
45.84	145.07	145.26	145.41	145.57	145.42	0.12	13.46
50.69	145.94	146.17	146.32	146.47	146.32	0.12	14.88
55.99	146.79	147.06	147.22	147.37	147.22	0.12	16.43
60.50	147.46	147.77	147.92	148.08	147.92	0.12	17.76
65.74	148.18	148.53	148.68	148.84	148.69	0.12	19.30
70.82	148.82	149.22	149.37	149.54	149.38	0.13	20.79
75.93	149.42	149.86	150.02	150.20	150.03	0.13	22.29
80.77	149.95	150.43	150.61	150.79	150.61	0.14	23.71
85.87	150.48	151.00	151.19	151.39	151.19	0.15	25.21
90.69	150.96	151.50	151.71	151.94	151.72	0.17	26.62
95.98	151.45	152.00	152.27	152.54	152.27	0.21	28.17
100.64	151.86	152.40	152.74	153.08	152.74	0.27	29.54
105.64	152.28	152.75	153.23	153.70	153.23	0.37	31.01
110.98	152.70	152.97	153.76	154.51	153.75	0.60	32.58
115.82	153.07	152.85	154.25	155.56	154.22	1.06	34.00
121.00	153.45	152.40	154.76	156.99	154.72	1.79	35.57
125.92	153.80	152.01	155.20	158.16	155.13	2.40	36.50
130.87	154.13	152.04	155.86	159.39	155.77	2.87	38.42
135.77	154.45	152.36	156.74	160.81	156.64	3.30	39.85
140.94	154.78	152.70	157.62	162.18	157.51	3.70	41.37
145.89	155.07	153.02	158.42	163.42	158.30	4.06	42.82
150.97	155.37	153.36	159.27	164.69	159.12	4.43	44.31
155.79	155.64	153.67	159.99	165.84	159.84	4.75	45.73
160.72	155.91	153.89	160.85	167.12	160.66	5.13	47.18
165.87	156.19	154.32	161.62	168.30	161.43	5.46	48.69
170.90	156.45	154.65	162.46	169.52	162.22	5.81	50.17
175.87	156.70	154.96	163.20	170.68	162.96	6.14	51.62
180.97	156.94	155.27	164.00	171.93	163.75	6.51	53.12
185.69	157.17	155.55	164.72	173.07	164.47	6.85	54.51
190.58	157.39	155.83	165.58	174.15	165.14	7.16	55.94
195.66	157.62	156.13	166.20	175.49	165.95	7.56	57.43
200.97	157.85	156.41	166.93	176.86	166.75	7.99	58.99
203.90	157.98	156.55	167.30	177.50	167.13	8.19	59.85
205.33	158.04	156.61	167.51	177.86	167.34	8.30	60.27
206.00	158.07	156.63	167.61	178.04	167.44	8.37	60.47
209.07	158.20	157.90	169.27	179.96	169.04	8.62	61.37
209.57	158.22	158.60	170.07	180.90	169.87	8.71	DIFR
212.00	158.32	164.86	176.48	197.39	176.26	8.80	DIFR
213.00	158.35	167.44	179.12	190.08	178.69	8.95	DIFR
214.00	158.40	170.01	181.76	192.76	181.53	8.89	DIFR
215.00	158.44	172.60	184.39	195.44	184.16	8.92	DIFR
216.00	158.48	175.18	187.03	198.11	186.79	8.96	DIFR
217.00	158.52	177.77	189.67	200.79	189.42	9.00	DIFR

RUN NO. 96

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADII'S: 4423 NMI

FREQUENCY: 5 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBSTACLE: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	126.62	126.51	126.66	126.81	126.66	0.12	0.20
5.67	129.69	129.58	129.73	129.89	129.73	0.12	1.66
9.37	132.48	132.41	132.56	132.71	132.56	0.12	2.75
15.27	135.98	135.94	136.09	136.25	136.10	0.12	4.48
18.75	137.60	137.59	137.73	137.89	137.74	0.12	5.50
24.04	139.62	139.65	139.80	139.95	139.80	0.12	7.06
30.74	141.68	141.75	141.90	142.05	141.90	0.12	9.02
35.94	143.00	143.11	143.26	143.42	143.26	0.12	10.55
40.98	144.12	144.27	144.42	144.57	144.42	0.12	12.03
45.84	145.07	145.26	145.41	145.57	145.42	0.12	13.46
50.69	145.94	146.17	146.32	146.47	146.32	0.12	14.88
55.99	146.79	147.06	147.22	147.37	147.22	0.12	16.43
60.50	147.46	147.77	147.92	148.08	147.92	0.12	17.76
65.74	148.12	148.53	148.68	148.84	148.69	0.12	19.30
70.82	148.82	149.22	149.37	149.54	149.38	0.13	20.79
75.93	149.42	149.86	150.02	150.20	150.03	0.13	22.29
80.77	149.95	150.43	150.61	150.79	150.61	0.14	23.71
85.87	150.48	151.00	151.19	151.39	151.19	0.15	25.21
90.69	150.96	151.50	151.71	151.94	151.72	0.17	26.62
95.98	151.45	152.00	152.27	152.54	152.27	0.21	28.17
100.64	151.85	152.40	152.74	153.08	152.74	0.27	29.54
105.64	152.28	152.75	153.23	153.70	153.23	0.37	31.01
110.98	152.70	152.97	153.76	154.51	153.75	0.60	32.58
115.82	153.07	152.85	154.25	155.56	154.22	1.06	34.00
121.00	153.45	152.40	154.76	156.99	154.72	1.79	35.52
125.92	153.80	152.01	155.20	158.16	155.13	2.40	36.96
130.87	154.13	152.04	155.86	159.39	155.77	2.87	38.42
135.77	154.45	152.36	156.74	160.81	156.64	3.30	39.85
140.94	154.78	152.70	157.62	162.18	157.51	3.70	41.37
145.89	155.07	153.02	158.42	163.42	158.30	4.06	42.82
150.97	155.37	153.36	159.27	164.69	159.12	4.43	44.31
155.79	155.64	153.67	159.99	165.84	159.84	4.75	45.73
160.72	155.91	153.99	160.85	167.12	160.66	5.13	47.18
165.87	156.19	154.32	161.62	168.30	161.43	5.46	48.69
168.68	156.33	154.50	162.08	169.98	161.87	5.66	49.51
170.90	156.45	154.65	162.46	169.52	162.22	5.81	50.17
175.87	156.70	154.96	163.20	170.69	162.96	6.14	51.62
180.97	156.94	155.69	164.42	172.36	164.17	6.51	53.12
182.16	157.00	155.98	165.03	173.16	164.74	6.71	DIFR
185.00	157.14	157.82	167.09	175.33	166.77	6.85	DIFR
186.00	157.18	158.48	167.92	176.10	167.49	6.89	DIFR
187.00	157.23	159.13	168.54	176.86	168.20	6.92	DIFR
188.00	157.27	159.80	169.27	177.62	168.92	6.97	DIFR
189.00	157.32	160.46	170.00	178.38	169.64	7.01	DIFR
190.00	157.37	161.13	170.72	179.14	170.36	7.04	DIFR
191.00	157.41	161.78	171.45	179.90	171.07	7.08	DIFR
192.00	157.46	162.41	172.18	180.66	171.78	7.14	DIFR
193.00	157.50	163.05	172.90	181.42	172.48	7.18	DIFR
194.00	157.55	163.69	173.63	182.20	173.20	7.24	DIFR
195.00	157.59	164.33	174.36	182.98	173.92	7.29	DIFR
196.00	157.64	164.98	175.09	183.76	174.64	7.34	DIFR
197.00	157.68	165.63	175.81	184.57	175.37	7.40	DIFR

198.00	157.72	166.27	176.54	185.41	176.10	7.48	DIFR
199.00	157.77	166.92	177.26	186.26	176.84	7.56	DIFR
200.00	157.81	167.56	177.99	187.10	177.58	7.64	DIFR
201.00	157.85	168.21	178.72	187.94	178.32	7.71	DIFR
202.00	157.90	168.87	179.45	188.78	179.06	7.78	DIFR
203.00	157.94	169.52	180.18	189.61	179.80	7.85	DIFR

RUN NO. 97

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFT DIST (NMI)
1.00	132.64	132.54	132.70	132.87	132.70	0.13	0.30
5.67	135.70	134.77	135.79	136.94	135.83	0.85	1.68
9.37	138.50	136.79	138.62	140.95	138.78	1.63	2.77
15.27	142.00	139.51	142.18	146.01	142.54	2.55	4.52
18.75	143.62	140.86	143.84	148.30	144.30	2.93	5.55
24.04	145.65	142.63	145.93	151.10	146.51	3.34	7.12
30.74	147.70	144.50	148.06	153.82	148.74	3.68	9.10
35.94	149.02	145.77	149.44	155.51	150.19	3.84	10.64
42.98	150.14	147.87	150.62	156.91	151.41	3.97	12.13
45.84	151.10	147.82	151.64	158.10	152.47	4.05	13.57
50.69	151.96	148.70	152.56	159.17	153.42	4.14	15.00
55.99	152.81	149.57	153.49	160.22	154.37	4.21	16.57
60.50	153.48	150.26	154.22	161.03	155.11	4.26	17.51
65.74	154.20	151.00	155.01	161.89	155.91	4.30	19.46
70.82	154.84	151.68	155.72	162.66	156.63	4.34	20.96
75.93	155.44	152.32	156.40	163.39	157.31	4.37	22.47
80.77	155.97	152.90	157.01	164.04	157.92	4.40	23.91
85.87	156.50	153.49	157.63	164.69	158.54	4.43	25.42
90.69	156.96	154.02	158.16	165.26	159.10	4.45	26.84
95.98	157.47	154.57	158.77	165.90	159.68	4.48	28.41
100.64	157.88	155.05	159.27	166.44	160.19	4.50	29.79
105.64	158.30	155.53	159.80	167.02	160.72	4.54	31.27
110.98	158.72	156.01	160.36	167.66	161.28	4.60	32.85
115.82	159.09	156.35	160.89	168.31	161.79	4.72	34.28
121.00	159.47	156.51	161.44	169.11	162.30	4.96	35.81
125.92	159.82	156.56	161.92	169.83	162.71	5.22	37.27
130.87	160.15	156.96	162.68	170.81	163.43	5.44	38.73
135.77	160.47	157.57	163.64	171.93	164.33	5.63	40.18
140.94	160.80	158.17	164.56	172.98	165.19	5.81	41.71
145.89	161.10	158.74	165.44	173.95	166.01	5.96	43.18
150.97	161.39	159.32	166.34	174.91	166.82	6.10	44.68
155.79	161.66	159.84	167.16	175.82	167.58	6.25	46.11
160.72	161.94	160.38	168.05	176.78	168.38	6.41	47.57
165.87	162.21	160.90	168.88	177.71	169.15	6.57	49.09
170.90	162.47	161.42	169.80	178.70	169.96	6.75	50.58
175.87	162.72	161.89	170.60	179.66	170.71	6.94	52.05
180.97	162.96	162.35	171.51	180.79	171.55	7.20	53.56
185.69	163.19	162.74	172.29	181.81	172.28	7.45	54.96
190.58	163.41	163.10	173.08	182.94	173.04	7.75	56.41
195.66	163.64	163.42	173.95	184.36	173.91	8.18	57.91
200.97	163.87	163.75	174.75	185.62	174.72	8.53	59.48
205.70	164.08	164.21	175.53	186.55	175.44	8.73	60.88
210.84	164.29	164.67	176.35	187.56	176.20	8.94	62.40
211.04	164.30	164.69	176.38	187.60	176.23	8.95	62.46
213.22	164.39	164.88	176.72	188.03	176.56	9.04	63.11
214.40	164.44	164.99	176.90	188.27	176.73	9.10	63.45
215.17	164.47	165.06	177.03	188.44	176.85	9.14	63.68
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.85
216.00	164.50	165.13	177.20	188.67	177.01	9.20	63.93
216.13	164.51	165.14	177.21	188.69	177.03	9.20	63.97
216.46	164.52	165.17	177.26	188.75	177.07	9.21	64.07
216.73	164.53	165.20	177.30	188.80	177.11	9.22	64.15

216.96	164.54	165.22	177.33	188.84	177.14	9.23	64.21
217.27	164.55	165.24	177.37	188.89	177.18	9.24	64.31
217.87	164.57	165.29	177.45	188.99	177.26	9.26	64.48
220.84	164.69	170.89	183.19	194.82	182.98	9.35	
223.00	164.78	179.06	191.52	203.21	191.26	9.43	
224.00	164.82	182.85	195.37	207.09	195.12	9.47	
225.00	164.85	186.64	199.22	210.96	198.96	9.50	
226.00	164.99	190.43	203.07	214.83	202.80	9.53	
227.00	164.93	193.72	206.41	218.21	206.13	9.57	
228.00	164.97	195.37	208.12	219.96	207.84	9.61	

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

RUN NO. 98

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.05	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.12
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.91	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.95	158.19	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
130.87	160.15	158.47	162.68	166.99	162.71	3.33	38.73
135.77	160.47	158.88	163.64	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.57	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.16
150.97	161.39	160.12	166.34	172.45	166.30	4.82	44.68
155.79	161.66	160.50	167.16	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.82	5.85	49.09
170.90	162.47	161.70	169.80	177.59	169.70	6.21	50.58
175.87	162.72	162.08	170.60	178.83	170.51	6.54	52.05
180.97	162.96	162.47	171.51	180.26	171.42	6.95	53.56
185.59	163.19	162.83	172.29	181.50	172.21	7.29	54.96
190.58	163.41	163.16	173.08	182.79	173.02	7.67	56.41
195.65	163.64	163.43	173.95	184.32	173.90	8.16	57.91
200.97	163.87	163.79	174.75	185.62	174.72	8.53	59.48
205.70	164.08	164.21	175.53	185.55	175.44	8.73	60.88
210.84	164.29	164.67	176.35	187.56	176.20	8.94	62.40
215.04	164.30	164.69	176.38	187.60	176.23	8.95	62.46
219.22	164.39	164.88	176.72	188.03	176.56	9.04	63.11
214.40	164.44	164.99	176.90	188.27	176.73	9.10	63.45
215.17	164.47	165.06	177.03	188.44	176.85	9.14	63.68
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.85
216.00	164.50	165.13	177.20	188.67	177.01	9.20	63.93
216.13	164.51	165.14	177.21	188.69	177.03	9.20	63.97
216.46	164.52	165.17	177.26	188.75	177.07	9.21	64.07
216.71	164.53	165.19	177.5	188.79	177.11	9.22	64.14

216.73	164.53	165.20	177.30	188.80	177.11	9.22	64.15
216.96	164.54	165.22	177.33	188.84	177.14	9.23	64.21
217.87	164.57	165.29	177.45	188.99	177.26	9.26	64.48
220.25	164.67	170.77	183.03	194.65	182.83	9.33	DIFR
223.00	164.78	191.22	193.67	205.36	193.43	9.43	DIFR
224.00	164.82	185.02	197.54	209.26	197.29	9.47	DIFR
225.00	164.85	188.83	201.41	213.15	201.15	9.50	DIFR
226.00	164.89	192.64	205.26	217.04	205.01	9.53	DIFR
227.00	164.93	194.85	207.54	219.34	207.26	9.57	SCAT
228.00	164.97	196.37	209.12	220.97	208.84	9.61	SCAT

RUN NO. 99

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 20 NM

TERRAIN DATA: 50 FT REFRACTIVITY: 1.311 (EARTH RADII'S: 4423 NM)

CLIMATE: DESERT

SURFACE REFLECTION COEFF: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

CUT-OFF: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 2800 UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCLUDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.60	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.00	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.64	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.60	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.00	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.32	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
130.87	160.15	158.47	162.68	166.99	162.71	3.33	38.73
135.77	160.47	158.88	163.64	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.57	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.18
150.97	161.39	160.12	166.34	172.45	166.30	4.82	44.68
155.79	161.66	160.50	167.16	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.62	5.85	49.09
170.90	162.47	161.70	169.80	177.59	169.70	6.21	50.58
175.87	162.72	162.08	170.60	178.83	170.51	6.54	52.05
180.97	162.96	162.47	171.51	180.26	171.42	6.95	53.56
185.69	163.19	162.83	172.29	181.50	172.21	7.29	54.96
190.58	163.41	163.16	173.08	182.79	173.02	7.67	56.41
195.66	163.64	163.43	173.95	184.12	173.90	8.16	57.91
200.97	163.87	163.79	174.75	185.62	174.72	8.53	59.48
204.95	164.04	164.14	175.40	186.40	175.32	8.69	60.66
209.70	164.08	164.21	175.53	186.55	175.44	8.73	60.86
209.57	164.24	166.17	177.88	189.08	177.72	8.95	DIFR
212.00	164.34	173.17	185.02	196.34	184.85	9.05	DIFR
213.00	164.38	176.05	187.96	199.32	187.79	9.09	DIFR
214.00	164.42	178.93	190.89	202.29	190.72	9.13	DIFR
215.00	164.46	181.81	193.83	205.27	193.65	9.16	DIFR
216.00	164.50	184.70	196.77	208.24	196.58	9.20	DIFR
217.00	164.54	187.59	199.70	211.21	199.52	9.23	DIFR
218.00	164.58	190.48	202.64	214.19	202.45	9.26	DIFR

RUN NO. 100

JOHNSON & GIERHART

AIRCRAFT ALTITUDE 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE 50 NM AT 0.6 NM

TERRAIN DATA 30 FT

CLIMATE DESERT

SURFACE REFLECTION LOSS CONTRIBUTES TO VARIABILITY

TYPE1 ISOTROPIC

TYPE1 ISOTROPIC

REFRACTIVITY EFFECTIVE EARTH RADIUS 4320 NM

FREQUENCY 10 GHz

POLARIZATION CIRCULAR

TERRAIN ELEVATION AT SITE 6 FT

OBST IN SPECTRUM AT 30 FT ABOVE MSL

MINIMUM MONTHLY MEAN 20 N UNITS

SURFACE TYPE POOR GROUND

TIME AVAILABILITY FOR INSTANTANEOUS LEVELS EXCLUDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EIT DIST (NM)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.93	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.64	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.40
70.82	154.84	155.57	155.72	155.86	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.08	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
130.87	160.15	158.47	162.60	166.99	162.71	3.33	38.73
135.77	160.47	158.88	163.64	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.57	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.18
150.97	161.39	160.12	166.34	172.45	166.30	4.82	44.68
155.79	161.66	160.50	167.16	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.82	5.85	49.09
170.90	162.47	161.70	169.80	177.59	169.70	6.21	50.58
172.42	162.54	161.82	170.05	177.97	169.95	6.31	51.03
175.87	162.72	162.08	170.60	178.63	170.51	6.54	52.05
180.97	162.96	162.55	171.59	180.02	171.50	6.95	53.56
182.16	163.02	163.08	172.40	181.35	172.30	7.14	DIFR
185.00	163.16	165.02	174.58	183.60	174.41	7.26	DIFR
186.00	163.20	165.72	175.33	184.39	175.16	7.30	DIFR
187.00	163.25	166.41	176.09	185.18	175.91	7.33	DIFR
188.00	163.30	167.11	176.85	185.97	176.65	7.37	DIFR
189.00	163.34	167.81	177.60	186.76	177.40	7.40	DIFR
190.00	163.39	168.47	178.36	187.54	178.14	7.45	DIFR
191.00	163.43	169.13	179.12	188.30	178.85	7.50	DIFR
192.00	163.48	169.81	179.85	189.13	179.62	7.55	DIFR
193.00	163.52	170.49	180.60	189.94	180.37	7.60	DIFR
194.00	163.57	171.16	181.39	190.75	181.12	7.65	DIFR
195.00	163.61	171.85	182.15	191.55	181.87	7.70	DIFR
196.00	163.66	172.54	182.91	192.31	182.62	7.75	DIFR
197.00	163.70	173.23	183.67	193.19	183.38	7.80	DIFR

198.00	163.75	173.91	184.43	194.06	184.15	7.97	DIFR
199.00	163.79	174.50	185.19	194.97	184.97	7.95	DIFR
200.00	163.83	175.08	185.95	195.80	185.69	8.62	DIFR
201.00	163.88	175.97	186.71	196.67	186.47	8.09	DIFR
202.00	163.92	176.67	187.47	197.53	187.24	8.15	DIFR
203.00	163.96	177.35	188.23	198.39	188.01	8.22	DIFR
204.00	164.00	178.01	189.00	199.24	188.76	8.29	DIFR

RUN NO. 101

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.5 NMI

TERRAIN DELTA: 150 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 18 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.89	151.96	152.41	152.56	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.69	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.98	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	158.95	159.80	160.81	159.82	0.77	31.27
110.98	158.72	158.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	158.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	158.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	158.28	161.92	165.65	161.95	2.88	37.27
130.87	160.15	158.47	162.68	166.99	162.71	3.33	38.73
135.77	160.47	158.88	163.64	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.57	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.18
150.97	161.39	160.12	166.34	172.45	166.30	4.82	44.68
155.79	161.66	160.50	167.16	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.82	5.85	49.09
170.90	162.47	161.70	169.80	177.59	169.70	6.21	50.50
175.87	162.72	162.08	170.60	178.83	170.51	6.54	52.05
180.97	162.96	162.47	171.51	180.26	171.42	6.95	53.56
185.69	163.19	162.83	172.29	181.50	172.21	7.29	54.96
190.58	163.41	163.16	173.08	182.79	173.02	7.67	56.41
195.66	163.64	163.43	173.95	184.31	173.90	8.16	57.91
200.97	163.87	163.79	174.76	185.62	174.72	8.53	59.48
205.70	164.08	164.21	175.53	186.56	175.44	8.73	60.88
210.84	164.29	164.67	176.35	187.58	176.20	8.94	62.40
211.04	164.30	164.89	176.38	187.60	176.23	8.95	62.46
213.22	164.39	164.88	176.72	189.03	176.56	9.04	63.11
214.40	164.44	164.99	176.90	188.27	176.73	9.10	63.45
215.17	164.47	165.06	177.03	188.44	176.85	9.14	63.68
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.85
215.72	164.49	165.11	177.16	188.62	176.98	9.19	63.85
216.00	164.50	165.13	177.20	188.67	177.01	9.20	63.93
216.13	164.51	165.14	177.21	188.69	177.03	9.20	63.97
216.46	164.52	165.17	177.26	188.75	177.07	9.21	64.07

216.73	164.53	165.20	177.30	188.80	177.11	9.22	64.15
216.96	164.54	165.22	177.33	188.84	177.14	9.23	64.21
217.87	164.57	170.06	182.21	193.75	182.02	9.26	64.48
217.96	164.58	170.57	182.72	194.27	182.53	9.26	DIFR
220.00	164.66	178.39	190.64	202.25	190.44	9.32	DIFR
221.00	164.70	182.20	194.52	206.16	194.31	9.36	DIFR
222.00	164.74	186.01	198.40	210.07	198.17	9.40	DIFR
223.00	164.76	189.83	202.28	213.97	202.04	9.43	DIFR
224.00	164.82	193.51	206.02	217.74	205.78	9.47	SCAT
225.00	164.85	195.15	207.72	219.47	207.46	9.50	SCAT

RUN NO. 102

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.21 NM

TERRAIN DELTA: 250 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 37 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EPP DIST (NM)
1.00	132.64	132.55	132.70	132.85	132.70	0.12	0.30
5.67	135.70	135.64	135.79	135.94	135.79	0.12	1.68
9.37	138.50	138.47	138.62	138.78	138.62	0.12	2.77
15.27	142.00	142.03	142.18	142.34	142.18	0.12	4.52
18.75	143.62	143.69	143.84	143.99	143.84	0.12	5.55
24.04	145.65	145.78	145.93	146.08	145.93	0.12	7.12
30.74	147.70	147.91	148.06	148.21	148.06	0.12	9.10
35.94	149.02	149.29	149.44	149.59	149.44	0.12	10.64
40.98	150.14	150.47	150.62	150.77	150.62	0.12	12.13
45.84	151.10	151.49	151.64	151.79	151.64	0.12	13.57
50.69	151.98	152.41	152.66	152.72	152.57	0.12	15.00
55.99	152.81	153.34	153.49	153.65	153.49	0.12	16.57
60.50	153.48	154.07	154.22	154.38	154.22	0.12	17.91
65.74	154.20	154.85	155.01	155.17	155.01	0.12	19.46
70.82	154.84	155.57	155.72	155.89	155.73	0.13	20.96
75.93	155.44	156.24	156.40	156.57	156.41	0.13	22.47
80.77	155.97	156.84	157.01	157.19	157.02	0.14	23.91
85.87	156.50	157.44	157.63	157.82	157.63	0.15	25.42
90.89	156.98	157.96	158.18	158.40	158.18	0.17	26.84
95.68	157.47	158.50	158.77	159.04	158.77	0.21	28.41
100.64	157.88	158.75	159.27	159.81	159.27	0.41	29.79
105.64	158.30	159.85	159.80	160.81	159.82	0.77	31.27
110.98	158.72	159.93	160.36	161.93	160.41	1.17	32.85
115.82	159.09	159.86	160.89	163.09	160.94	1.65	34.28
121.00	159.47	159.56	161.44	164.49	161.49	2.32	35.81
125.92	159.82	159.28	161.92	165.65	161.95	2.86	37.27
130.87	160.15	158.47	162.88	166.99	162.71	3.33	38.73
135.77	160.47	158.88	163.84	168.45	163.66	3.74	40.18
140.94	160.80	159.30	164.56	169.85	164.57	4.12	41.71
145.89	161.10	159.70	165.44	171.15	165.43	4.47	43.18
150.97	161.39	160.12	166.34	172.46	166.30	4.82	44.68
155.79	161.66	160.60	167.16	173.70	167.12	5.15	46.11
160.72	161.94	160.90	168.05	175.01	167.99	5.51	47.57
165.87	162.21	161.30	168.88	176.27	168.82	5.85	49.09
170.90	162.47	161.70	169.60	177.59	169.70	6.21	50.58
175.87	162.72	162.08	170.60	178.83	170.51	6.54	52.05
180.97	162.93	162.47	171.51	180.26	171.42	6.95	53.56
185.69	163.19	162.83	172.29	181.50	172.21	7.29	54.96
190.58	163.41	163.16	173.08	182.79	173.02	7.67	56.41
195.66	163.64	163.43	173.95	184.31	173.94	8.16	57.91
200.97	163.87	163.79	174.75	185.62	174.72	8.53	59.48
205.70	164.08	164.21	175.53	186.66	175.74	8.73	60.88
210.94	164.29	164.07	176.35	187.56	176.20	8.94	62.40
210.84	164.29	164.67	176.35	187.56	176.20	8.94	62.40
211.04	164.30	164.69	176.36	187.60	176.23	8.95	62.46
213.22	164.39	165.50	177.33	188.65	177.17	9.04	63.11
214.40	164.44	169.89	181.80	193.17	181.63	9.10	63.45
214.50	164.44	170.22	182.21	193.63	182.03	9.14	DIFR
217.00	164.54	178.92	191.04	202.55	190.85	9.23	DIFR
218.00	164.58	182.41	194.57	206.12	194.38	9.26	DIFR
219.00	164.62	185.91	198.11	209.69	197.92	9.29	DIFR
220.00	164.66	189.40	201.65	213.26	201.45	9.32	DIFR

221.00	164.70	192.87	205.19	216.83	204.98	9.36	DIFR
222.00	164.74	195.84	208.23	219.89	208.00	0.40	SCAT

RUNNO. 103

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 34 NMI

TERRAIN DELTA h: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.09	136.25	136.42	136.25	0.13	0.30
5.67	139.22	138.93	139.35	140.51	139.39	0.85	1.68
9.37	142.02	140.37	142.21	144.53	142.36	1.63	2.79
15.27	145.52	143.13	145.80	149.62	146.16	2.55	4.54
18.75	147.14	144.50	147.47	151.93	147.94	2.93	5.57
24.04	149.17	146.29	149.59	154.77	150.18	3.34	7.15
30.74	151.22	148.20	151.76	157.53	152.45	3.68	9.13
35.94	152.54	149.51	153.18	159.24	153.92	3.84	10.68
40.98	153.66	150.63	154.39	160.68	155.18	3.97	12.18
45.84	154.62	151.62	155.44	161.90	156.26	4.06	13.62
50.69	155.48	152.52	156.39	163.00	157.25	4.14	15.06
55.99	156.33	153.44	157.35	164.08	158.23	4.21	16.64
60.50	157.00	154.16	158.11	164.93	159.00	4.26	17.98
65.74	157.72	154.94	158.94	165.82	159.84	4.30	19.54
70.82	158.36	155.65	159.69	166.63	160.59	4.34	21.04
75.93	158.96	156.33	160.41	167.39	161.32	4.37	22.57
80.77	159.50	156.95	161.06	168.08	161.97	4.40	24.00
85.87	160.03	157.57	161.71	168.78	162.62	4.43	25.52
90.69	160.50	158.14	162.31	169.41	163.22	4.46	26.95
95.98	160.99	158.73	162.94	170.10	163.86	4.49	28.52
100.64	161.40	159.23	163.49	170.70	164.41	4.53	29.91
105.64	161.82	159.76	164.07	171.34	164.99	4.58	31.39
110.98	162.25	160.28	164.68	172.05	165.61	4.65	32.98
115.82	162.62	160.87	165.26	172.76	166.17	4.77	34.42
121.00	163.00	160.89	165.88	173.62	166.74	5.02	35.96
125.92	163.34	160.99	166.41	174.40	167.21	5.27	37.42
130.87	163.68	161.49	167.27	175.47	168.03	5.49	38.89
135.77	163.99	162.18	168.31	176.67	169.01	5.69	40.35
140.94	164.32	162.85	169.30	177.80	169.94	5.86	41.88
145.89	164.62	163.50	170.28	178.87	170.85	6.02	43.35
150.97	164.91	164.15	171.25	179.93	171.74	6.17	44.86
155.79	165.19	164.77	172.18	180.95	172.60	6.33	46.29
160.72	165.46	165.39	173.15	182.02	173.49	6.50	47.76
165.87	165.73	166.01	174.11	183.09	174.38	6.67	49.29
170.90	165.99	166.61	175.13	184.24	175.31	6.89	50.79
175.87	166.24	167.15	176.03	185.40	176.18	7.13	52.26
180.97	166.49	167.69	177.08	186.79	177.18	7.46	53.78
185.69	166.71	168.13	177.97	188.10	178.06	7.80	55.18
190.58	166.94	168.62	178.92	189.40	178.98	8.12	56.63
195.66	167.16	169.24	179.92	190.62	179.93	8.35	58.14
200.97	167.40	169.87	180.88	191.78	180.84	8.56	59.72
205.55	167.59	170.43	181.80	192.84	181.70	8.75	61.08
210.47	167.80	171.04	182.75	193.97	182.59	8.96	62.54
213.22	167.91	171.38	183.26	194.61	183.09	9.08	63.36
214.82	167.97	171.58	183.56	194.99	183.39	9.15	63.84
215.10	168.01	171.69	183.79	195.28	183.60	9.22	64.11
216.00	168.02	171.73	183.83	195.34	183.64	9.22	64.19
216.31	168.03	171.76	183.88	195.40	183.70	9.23	64.28
216.73	168.05	171.82	183.96	195.49	183.77	9.25	64.41
217.08	168.06	171.86	184.01	195.55	183.82	9.26	64.50
217.31	168.07	171.89	184.06	195.61	183.86	9.27	64.58
217.53	168.08	171.91	184.09	195.65	183.90	9.27	64.64

217.70	168.09	171.93	184.12	195.69	183.93	9.28	64.69
217.80	168.09	171.95	184.14	195.70	183.94	9.28	64.72
218.42	168.12	172.02	184.24	195.83	184.04	9.30	64.91
220.84	168.21	177.28	189.65	201.31	189.43	9.39	DIFR
223.00	168.30	186.73	199.23	210.95	198.99	9.47	DIFR
224.00	168.34	191.10	203.67	215.41	203.41	9.50	DIFR
225.00	168.38	195.47	208.10	219.86	207.83	9.53	DIFR
226.00	168.41	199.54	212.22	224.02	211.95	9.57	SCAT
227.00	168.45	201.58	214.32	226.16	214.04	9.61	SCAT
228.00	168.49	203.36	216.16	228.05	215.88	9.64	SCAT

RUN NO. 104

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.22	139.20	139.35	139.51	139.35	0.12	1.68
9.37	142.02	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.66	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.59	155.48	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.12	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.12	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.73	162.51	0.32	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.70	28.52
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.39
110.98	162.25	162.77	164.68	166.99	164.81	1.65	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.42
121.00	163.00	162.70	165.88	169.47	166.01	2.65	35.96
125.92	163.34	162.53	166.41	170.64	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
155.79	165.19	165.34	172.18	179.17	172.23	5.40	46.29
160.72	165.46	165.83	173.15	180.58	173.18	5.76	47.76
165.87	165.73	166.34	174.11	181.96	174.14	6.10	49.29
170.90	165.99	166.84	175.13	183.46	175.14	6.49	50.79
175.87	166.24	167.53	176.03	184.90	176.08	6.86	52.26
180.97	166.49	167.80	177.08	186.53	177.14	7.32	53.78
185.69	166.71	168.16	177.97	188.01	178.04	7.75	55.18
190.58	166.94	168.62	178.92	189.40	178.98	8.12	56.63
195.66	167.16	169.24	179.92	190.62	179.93	8.35	58.14
200.97	167.40	169.87	180.88	191.78	180.84	8.56	59.72
205.55	167.59	170.43	181.80	192.84	181.70	8.75	61.08
210.47	167.80	171.04	182.75	193.97	182.59	8.96	62.54
213.22	167.91	171.38	183.26	194.61	183.09	9.08	63.36
214.82	167.97	171.58	183.56	194.99	183.39	9.15	63.84
215.72	168.01	171.69	183.79	195.28	183.60	9.22	64.11
216.00	168.02	171.73	183.83	195.34	183.64	9.22	64.19
216.31	168.03	171.76	183.88	195.40	183.70	9.23	64.28
216.73	168.05	171.82	183.96	195.49	183.77	9.25	64.41
217.06	168.06	171.86	184.01	195.55	183.82	9.26	64.50
217.23	168.07	171.88	184.04	195.59	183.85	9.26	64.55
217.31	168.07	171.89	184.06	195.61	183.86	9.27	64.58

217.55	168.08	171.91	184.09	195.65	183.90	9.27	64.64
217.70	168.09	171.93	184.12	195.69	183.93	9.28	64.69
218.42	168.12	172.02	184.24	195.83	184.04	9.30	64.91
220.25	168.19	177.17	189.50	201.14	189.29	9.36	DIFR
223.00	168.30	189.23	201.74	213.46	201.49	9.47	DIFR
224.00	168.34	193.62	205.19	217.93	205.93	9.50	DIFR
225.00	168.38	198.01	210.64	222.40	210.37	9.53	DIFR
226.00	168.41	200.92	213.61	225.40	213.33	9.57	SCAT
227.00	168.45	202.78	215.52	227.36	215.24	9.61	SCAT
228.00	168.49	204.43	217.22	229.11	216.94	9.64	SCAT

JOHNSON & OVERHART

AIRCRAFT ALTITUDE: 3300 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 30 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

RUN NO. 105

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HT: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.22	139.20	139.35	139.51	139.35	0.12	1.68
9.37	142.02	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.66	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.66	155.46	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.13	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.13	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.73	162.31	0.17	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.19	28.52
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.39
110.98	162.25	162.77	164.68	166.99	164.81	1.65	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.42
121.00	163.00	162.70	165.88	169.47	166.01	2.55	35.96
125.92	163.34	162.53	166.41	170.84	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
155.79	165.19	165.34	172.18	179.17	172.23	5.40	45.29
160.72	165.46	165.83	173.15	180.58	173.18	5.76	47.76
165.87	165.73	166.34	174.11	181.96	174.14	6.10	49.29
170.90	165.99	166.84	175.13	183.46	175.14	6.49	50.79
175.87	166.24	167.33	176.03	184.90	176.08	6.86	52.26
180.97	166.49	167.80	177.08	186.53	177.14	7.32	53.78
185.69	166.71	168.16	177.97	188.01	178.04	7.75	55.18
190.58	166.94	168.62	178.92	189.40	178.98	8.12	56.63
195.66	167.16	169.24	179.92	190.62	179.93	8.35	58.14
200.97	167.40	169.87	180.88	191.78	180.84	8.56	59.72
205.39	167.58	170.41	181.77	192.81	181.67	8.75	61.04
205.55	167.59	170.43	181.80	192.84	181.70	8.75	61.08
209.67	167.76	172.40	194.16	195.41	184.00	8.99	DIFR
212.00	167.96	179.84	191.75	203.10	191.57	9.08	DIFR
213.00	167.90	182.91	194.86	206.26	194.69	9.12	DIFR
214.00	167.94	185.97	197.98	209.41	197.80	9.16	DIFR
215.00	167.98	189.04	201.10	212.57	200.92	9.19	DIFR
216.00	168.02	192.11	204.22	215.72	204.03	9.22	DIFR
217.00	168.06	195.18	207.34	218.86	207.15	9.26	DIFR
218.00	168.10	198.26	210.46	222.03	210.26	9.29	DIFR

RUN NO. 106

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 33000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 15 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST ITT: SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREQ SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	136.16	136.10	136.25	136.41	136.25	0.12	0.30
5.67	139.22	139.20	139.35	139.51	139.35	0.12	1.68
9.37	142.02	142.06	142.21	142.36	142.21	0.12	2.79
15.27	145.52	145.65	145.80	145.95	145.80	0.12	4.54
18.75	147.14	147.32	147.47	147.63	147.47	0.12	5.57
24.04	149.17	149.44	149.59	149.74	149.59	0.12	7.15
30.74	151.22	151.61	151.76	151.91	151.76	0.12	9.13
35.94	152.54	153.03	153.18	153.33	153.18	0.12	10.68
40.98	153.66	154.24	154.39	154.54	154.39	0.12	12.18
45.84	154.62	155.29	155.44	155.59	155.44	0.12	13.62
50.69	155.48	156.24	156.39	156.55	156.39	0.12	15.06
55.99	156.33	157.20	157.35	157.51	157.35	0.12	16.64
60.50	157.00	157.96	158.11	158.27	158.11	0.12	17.98
65.74	157.72	158.79	158.94	159.10	158.94	0.12	19.54
70.82	158.36	159.53	159.69	159.86	159.69	0.13	21.04
75.93	158.96	160.25	160.41	160.58	160.41	0.13	22.57
80.77	159.50	160.88	161.06	161.24	161.06	0.14	24.00
85.87	160.03	161.52	161.71	161.91	161.72	0.15	25.52
90.69	160.50	161.91	162.31	162.73	162.31	0.32	26.95
95.98	160.99	162.09	162.94	163.87	162.97	0.70	28.52
100.64	161.40	162.30	163.49	164.85	163.54	1.00	29.91
105.64	161.82	162.54	164.07	165.87	164.15	1.31	31.39
110.98	162.25	162.77	164.68	166.99	164.81	1.65	32.98
115.82	162.62	162.86	165.26	168.11	165.40	2.05	34.47
121.00	163.00	162.70	165.88	169.47	166.01	2.65	35.91
125.92	163.34	162.53	166.41	170.64	166.52	3.17	37.42
130.87	163.68	162.84	167.27	172.05	167.38	3.60	38.89
135.77	163.99	163.35	168.31	173.57	168.40	3.99	40.35
140.94	164.32	163.87	169.30	175.02	169.39	4.36	41.88
145.89	164.62	164.36	170.28	176.42	170.35	4.71	43.35
150.97	164.91	164.86	171.25	177.81	171.30	5.06	44.86
155.79	165.19	165.34	172.18	179.17	172.23	5.40	46.29
160.72	165.46	165.83	173.15	180.58	173.18	5.76	47.76
165.87	165.73	166.34	174.11	181.96	174.14	6.10	49.29
170.90	165.99	166.84	175.13	183.46	175.14	6.49	50.79
174.14	166.15	167.16	175.72	184.41	175.76	6.74	51.75
175.87	166.24	167.33	176.03	184.90	176.08	6.86	52.26
180.97	166.49	167.80	177.08	186.53	177.14	7.32	53.78
182.16	166.54	168.38	177.97	187.58	177.98	7.50	DIFR
185.00	166.68	170.52	180.30	190.01	180.28	7.61	DIFR
186.00	166.72	171.09	181.12	190.86	181.09	7.65	DIFR
187.00	166.77	172.05	181.95	191.71	181.91	7.68	DIFR
188.00	166.82	172.82	182.77	192.57	182.72	7.71	DIFR
189.00	166.86	173.55	183.59	193.42	183.53	7.76	DIFR
190.00	166.91	174.29	184.42	194.27	184.33	7.81	DIFR
191.00	166.95	175.02	185.24	195.13	185.14	7.85	DIFR
192.00	167.00	175.77	186.07	196.00	185.96	7.90	DIFR
193.00	167.04	176.52	186.90	196.88	186.77	7.95	DIFR
194.00	167.09	177.27	187.72	197.75	187.59	8.00	DIFR
195.00	167.13	178.03	188.55	198.62	188.41	8.04	DIFR
196.00	167.18	178.79	189.38	199.49	189.23	8.09	DIFR
197.00	167.22	179.55	190.21	200.38	190.05	8.14	DIFR

198.00	167.27	180.30	191.04	201.29	190.89	8.20	DIFR
199.00	167.31	181.05	191.87	202.21	191.72	8.26	DIFR
200.00	167.35	181.81	192.70	203.12	192.55	8.33	DIFR
201.00	167.40	182.57	193.53	204.03	193.39	8.39	DIFR
202.00	167.44	183.33	194.36	204.94	194.22	8.44	DIFR
203.00	167.48	184.06	195.20	205.85	195.04	8.51	DIFR
204.00	167.53	184.79	196.03	206.76	195.87	8.58	DIFR

RUN NO. 107

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 5.4 NMI

TERRAIN DELTA: 0 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HTE: DETERMINED AT 0 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	30%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.24	139.63	140.04	139.64	0.31	1.23
10.69	141.47	140.58	141.55	142.64	141.59	0.81	2.33
13.70	142.66	141.41	142.76	144.36	142.84	1.15	2.98
17.90	144.23	142.54	144.35	146.63	144.50	1.60	3.89
24.44	146.36	144.15	146.51	149.75	146.79	2.20	5.32
29.56	147.78	145.29	147.96	151.80	148.33	2.56	6.43
32.81	148.59	145.95	148.79	152.97	149.21	2.76	7.14
36.76	149.49	146.71	149.71	154.23	150.18	2.96	8.00
41.68	150.50	147.58	150.76	155.65	151.29	3.18	9.07
48.00	151.66	148.60	151.95	157.25	152.56	3.41	10.45
55.93	152.93	149.75	153.27	158.95	153.95	3.63	12.17
60.40	153.58	150.37	153.95	159.79	154.65	3.72	13.14
65.60	154.27	151.03	154.68	160.68	155.42	3.81	14.27
70.80	154.92	151.66	155.36	161.51	156.13	3.89	15.41
75.89	155.51	152.24	155.99	162.26	156.78	3.96	16.51
80.70	156.03	152.76	156.55	162.92	157.35	4.01	17.56
85.78	156.55	153.29	157.11	163.58	157.93	4.07	18.67
90.70	157.03	153.77	157.62	164.18	158.46	4.12	19.74
95.52	157.47	154.22	158.10	164.73	158.96	4.16	20.79
100.83	157.94	154.70	158.61	165.32	159.48	4.20	21.84
105.58	158.33	155.11	159.04	165.81	159.93	4.23	22.98
110.31	158.71	155.50	159.46	166.27	160.35	4.26	24.01
115.43	159.10	155.90	159.89	166.75	160.79	4.29	25.12
120.96	159.50	156.32	160.34	167.24	161.24	4.32	26.32
125.78	159.84	156.68	160.72	167.65	161.62	4.34	27.37
130.86	160.18	157.05	161.11	168.08	162.02	4.36	28.48
135.82	160.50	157.39	161.48	168.48	162.39	4.38	29.55
140.72	160.81	157.73	161.84	168.86	162.75	4.40	30.62
145.93	161.12	158.08	162.21	169.26	163.12	4.42	31.76
150.75	161.40	158.39	162.54	169.62	163.46	4.44	32.80
155.66	161.68	158.71	162.88	169.98	163.79	4.46	33.87
160.83	161.96	159.03	163.22	170.35	164.14	4.48	35.00
165.81	162.23	159.33	163.55	170.70	164.47	4.49	36.08
170.61	162.47	159.61	163.86	171.05	164.78	4.52	37.13
175.63	162.72	159.89	164.19	171.42	165.10	4.56	38.22
180.88	162.90	160.14	164.53	171.83	165.44	4.62	39.36
185.87	163.21	160.28	164.86	172.27	165.74	4.73	40.45
190.85	163.44	160.24	165.19	172.80	166.02	4.95	41.53
195.99	163.67	160.26	165.81	173.73	166.55	5.29	42.65
200.92	163.89	160.88	166.66	175.08	167.60	5.57	43.72
205.97	164.10	161.40	167.90	176.14	168.44	5.77	44.82
210.83	164.31	161.84	168.65	177.01	169.13	5.93	45.88
215.83	164.51	162.30	169.45	177.86	169.84	6.09	46.97
221.00	164.71	162.72	170.17	178.65	170.49	6.22	48.09
225.91	164.90	163.11	170.81	179.33	171.07	6.34	49.16
230.96	165.10	163.51	171.55	180.03	171.69	6.46	50.26
235.86	165.28	163.87	172.18	180.71	172.25	6.58	51.32
240.79	165.46	164.21	172.78	181.42	172.80	6.72	52.40
245.84	165.64	164.58	173.50	182.22	173.44	6.89	53.50
250.99	165.82	164.94	174.16	183.02	174.05	7.07	54.62
255.90	165.98	165.26	174.74	183.78	174.60	7.23	55.69

260.93	166.15	165.59	175.42	184.66	175.24	7.45	56.78
265.88	166.32	165.90	176.06	185.65	175.89	7.72	57.86
270.71	165.47	166.19	176.65	186.58	176.48	7.96	58.91
275.67	166.63	166.43	177.21	187.56	177.08	8.26	59.99
280.76	166.79	166.63	177.90	188.79	177.78	8.66	61.10
285.95	166.95	166.96	178.56	189.70	178.42	8.88	62.22
290.70	167.09	167.31	179.13	190.44	178.97	9.03	63.26
295.15	167.22	167.64	179.65	191.09	179.47	9.16	64.23
299.96	167.24	167.70	179.74	191.21	179.56	9.19	64.40
297.35	167.28	167.80	179.90	191.41	179.72	9.22	64.70
298.52	167.32	167.89	180.04	191.59	179.85	9.26	64.96
299.30	167.34	167.95	180.15	191.73	179.96	9.29	65.13
299.85	167.36	168.00	180.27	191.90	180.07	9.34	65.25
300.26	167.37	168.03	180.33	191.96	180.12	9.35	65.34
300.59	167.38	168.05	180.37	192.01	180.16	9.36	65.41
300.86	167.39	168.07	180.40	192.05	180.19	9.37	65.47
301.09	167.39	168.09	180.43	192.08	180.22	9.37	65.52
301.57	167.41	168.13	180.49	192.15	180.27	9.39	65.62
302.00	167.42	168.16	180.55	192.22	180.32	9.40	65.72
305.14	167.51	173.55	186.08	197.81	185.63	9.48	67.88

RUNNO. 108

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: DETERMINED AT 4.83 NMI

TERRAIN DELTA: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST: DETERMINED AT 4 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.48	139.63	139.78	139.63	0.12	1.23
10.69	141.47	141.40	141.55	141.71	141.55	0.12	2.33
13.70	142.66	142.61	142.76	142.91	142.76	0.12	2.98
17.90	144.23	144.20	144.35	144.50	144.35	0.12	3.89
24.44	146.36	146.36	146.51	146.67	146.52	0.12	5.32
29.56	147.78	147.81	147.96	148.12	147.96	0.12	6.43
32.81	148.59	148.64	148.79	148.94	148.79	0.12	7.14
36.76	149.49	149.56	149.71	149.87	149.71	0.12	8.00
41.68	150.50	150.61	150.76	150.91	150.76	0.12	9.07
48.00	151.66	151.80	151.95	152.11	151.95	0.12	10.45
55.93	152.93	153.13	153.27	153.43	153.28	0.12	12.17
60.40	153.58	153.80	153.95	154.10	153.95	0.12	13.14
65.60	154.27	154.53	154.68	154.83	154.68	0.12	14.27
70.80	154.92	155.21	155.36	155.52	155.36	0.12	15.41
75.89	155.51	155.84	155.99	156.14	155.99	0.12	16.51
80.70	156.03	156.40	156.55	156.70	156.55	0.12	17.56
85.78	156.55	156.95	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.62	0.12	19.74
95.52	157.47	157.95	158.10	158.26	158.10	0.12	20.79
100.83	157.94	158.45	158.61	158.77	158.61	0.12	21.94
105.58	158.33	158.88	159.04	159.20	159.04	0.12	22.98
110.31	158.71	159.30	159.46	159.62	159.46	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	25.12
120.06	159.50	160.17	160.34	160.52	160.34	0.13	26.32
125.78	159.84	160.55	160.72	160.91	160.73	0.14	27.37
130.86	160.18	160.93	161.11	161.30	161.12	0.15	28.48
135.82	160.50	161.28	161.48	161.69	161.48	0.16	29.55
140.72	160.81	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.12	161.97	162.21	162.45	162.21	0.19	31.76
150.75	161.40	162.27	162.54	162.81	162.54	0.21	32.80
155.66	161.68	162.57	162.88	163.18	162.87	0.24	33.87
160.83	161.96	162.86	163.22	163.57	163.22	0.28	35.00
165.81	162.23	163.08	163.55	163.99	163.54	0.36	36.08
170.61	162.47	163.13	163.86	164.59	163.86	0.57	37.13
175.63	162.72	163.11	164.19	165.28	164.19	0.85	38.22
180.88	162.98	163.04	164.53	166.06	164.54	1.18	39.36
185.87	163.21	162.81	164.86	166.92	164.87	1.61	40.45
190.85	163.44	162.34	165.19	167.98	165.17	2.20	41.53
195.99	163.67	161.96	165.81	169.45	165.75	2.93	42.65
200.92	163.89	162.26	166.96	171.28	166.84	3.52	43.72
206.00	164.10	162.55	167.90	172.77	167.75	3.99	44.83
206.30	164.12	163.32	166.15	171.05	166.80	3.06	44.89
208.06	164.19	163.36	166.25	171.33	166.94	3.15	45.28
209.84	164.26	163.40	166.36	171.60	167.07	3.25	45.66
211.00	164.31	163.43	166.42	171.77	167.16	3.30	45.91
211.65	164.34	163.44	166.46	171.86	167.20	3.34	46.06
213.47	164.41	163.48	166.56	172.12	167.34	3.42	46.45
215.32	164.49	163.52	166.67	172.38	167.47	3.51	46.86
216.00	164.52	163.54	166.71	172.47	167.52	3.54	47.00
217.19	164.56	163.56	166.78	172.53	167.60	3.60	47.26
219.08	164.54	163.60	166.88	172.89	167.73	3.58	47.67

220.99	164.71	163.64	166.99	173.14	167.87	3.77	48.09
221.00	164.71	163.65	166.99	173.14	167.87	3.77	48.09
222.92	164.79	163.69	167.10	173.29	168.00	3.85	48.51
224.87	164.86	163.74	167.22	173.63	168.13	3.92	48.93
226.00	164.91	163.77	167.28	173.77	168.21	3.97	49.18
226.85	164.94	163.79	167.33	173.88	168.27	4.00	49.36
228.84	165.02	163.84	167.45	174.12	168.40	4.08	49.80
230.86	165.09	163.89	167.56	174.37	168.54	4.16	50.24
231.00	165.10	163.89	167.57	174.39	168.55	4.17	50.27
232.91	165.17	163.94	167.68	174.62	168.68	4.24	50.68
234.97	165.24	163.99	167.80	174.84	168.82	4.32	51.13
238.00	165.28	164.01	167.87	175.02	168.90	4.37	51.36
237.06	165.32	164.04	167.93	175.16	168.97	4.42	51.59
239.17	165.40	164.09	168.06	175.44	169.12	4.51	52.05
241.00	165.46	164.14	168.17	175.69	169.26	4.59	52.44
241.30	165.47	164.14	168.18	175.73	169.28	4.60	52.51
243.46	165.55	164.20	168.32	176.02	169.43	4.69	52.98
245.64	165.63	164.25	168.45	176.31	169.59	4.79	53.45
246.00	165.64	164.26	168.47	176.35	169.62	4.80	53.53
247.85	165.71	164.30	168.59	176.60	169.75	4.88	53.93
250.08	165.78	164.36	168.72	176.89	169.91	4.98	54.42
251.00	165.82	164.38	168.78	177.01	169.98	5.02	54.62
252.33	165.86	164.41	168.87	177.18	170.07	5.07	54.91
254.61	165.94	164.47	169.01	177.48	170.24	5.17	55.40
256.00	165.99	164.50	169.10	177.65	170.34	5.22	55.71
256.91	166.02	164.53	169.16	177.78	170.40	5.26	55.90
259.23	166.10	164.59	169.31	178.08	170.57	5.36	56.41
261.00	166.15	164.63	169.43	178.34	170.71	5.45	56.79
261.59	166.17	164.64	169.47	178.44	170.76	5.48	56.92
263.96	166.25	164.69	169.62	178.81	170.95	5.61	57.44
266.00	166.32	164.74	169.76	179.14	171.12	5.72	57.88
266.37	166.33	164.74	169.78	179.20	171.15	5.74	57.96
268.80	166.41	164.80	169.98	179.59	171.35	5.87	58.49
271.00	166.48	164.84	170.10	179.93	171.53	5.99	58.97
271.25	166.49	164.85	170.12	179.97	171.55	6.00	59.03
273.74	166.57	164.84	170.27	180.35	171.72	6.16	59.57
276.00	166.64	164.80	170.44	180.77	171.91	6.33	60.06
276.25	166.65	164.80	170.47	180.82	171.93	6.35	60.11
278.80	166.73	164.77	170.73	181.35	172.18	6.57	60.67
280.99	166.79	164.65	170.84	181.75	172.31	6.77	61.15
281.38	166.81	164.62	170.84	181.80	172.32	6.80	61.23
284.00	166.89	164.55	170.79	181.88	172.30	6.87	61.80
286.00	166.95	164.60	171.04	182.18	172.51	6.96	62.24
286.66	166.97	164.64	171.22	182.39	172.65	7.02	62.38
289.39	167.05	164.78	172.17	183.44	173.38	7.34	62.97
291.00	167.10	164.65	172.12	183.44	173.32	7.40	63.32
292.20	167.13	164.41	171.57	182.93	172.88	7.30	63.59
295.18	167.22	163.71	170.25	181.70	171.78	7.12	64.23
296.00	167.25	163.63	170.26	181.74	171.77	7.16	64.41
297.34	167.28	163.65	170.81	182.32	172.17	7.26	64.70
298.52	167.32	163.78	171.80	183.35	172.90	7.69	64.96
299.30	167.34	163.90	172.64	184.22	173.53	7.97	65.13
299.85	167.36	163.99	173.29	184.91	174.01	8.19	65.25
300.26	167.37	164.06	173.76	185.39	174.36	8.35	65.34
300.59	167.38	164.11	174.11	185.75	174.62	8.46	65.41
300.86	167.39	164.15	174.37	186.02	174.82	8.55	65.47
301.02	167.39	164.18	174.51	186.15	174.92	8.59	65.50
301.09	167.39	164.21	174.73	186.38	175.09	8.66	65.52
302.00	167.42	165.29	177.68	189.35	177.45	9.40	65.72
304.56	167.49	173.42	185.93	197.65	185.69	9.47	DIFR

RUN NO. 109

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NMI

TERRAIN DELTA E: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NMI

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

OBST HTE: SPECIFIED AT 25 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 280 N UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NMI)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NMI)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.48	139.63	139.78	139.63	0.12	1.23
10.69	141.47	141.40	141.55	141.71	141.55	0.12	2.33
13.70	142.66	142.61	142.76	142.91	142.76	0.12	2.98
17.00	144.23	144.20	144.35	144.50	144.35	0.12	3.89
24.44	146.36	146.36	146.51	146.67	146.52	0.12	5.32
28.56	147.78	147.81	147.96	148.12	147.96	0.12	6.43
32.81	148.59	148.64	148.79	148.94	148.79	0.12	7.14
36.76	149.49	149.56	149.71	149.87	149.71	0.12	8.00
41.68	150.50	150.61	150.76	150.91	150.76	0.12	9.07
48.00	151.66	151.80	151.95	152.11	151.95	0.12	10.45
55.93	152.93	153.13	153.27	153.43	153.28	0.12	12.17
80.40	153.58	153.80	153.95	154.10	153.95	0.12	13.14
55.60	154.27	154.53	154.68	154.83	154.68	0.12	14.27
70.80	154.92	155.21	155.36	155.52	155.36	0.12	15.41
75.89	155.51	155.84	155.99	156.14	155.99	0.12	16.51
80.70	156.03	156.40	156.55	156.70	156.55	0.12	17.56
85.78	156.55	156.95	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.62	0.12	19.74
95.52	157.47	157.95	158.10	158.26	158.10	0.12	20.79
100.83	157.94	158.45	158.61	158.77	158.61	0.12	21.94
105.58	158.33	158.88	159.04	159.20	159.04	0.12	22.98
110.31	158.71	159.30	159.46	159.62	159.46	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	25.12
120.96	159.50	160.17	160.34	160.52	160.34	0.13	26.32
125.78	159.84	160.55	160.72	160.91	160.73	0.14	27.37
130.86	160.18	160.93	161.11	161.30	161.12	0.15	28.48
135.82	160.50	161.28	161.48	161.69	161.48	0.16	29.55
140.72	160.81	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.12	161.97	162.21	162.45	162.21	0.19	31.76
150.75	161.40	162.27	162.54	162.81	162.54	0.21	32.80
155.66	161.68	162.57	162.88	163.18	162.87	0.24	33.87
160.83	161.96	162.86	163.22	163.57	163.22	0.28	35.00
165.81	162.23	163.08	163.55	163.99	163.54	0.36	36.08
170.61	162.47	163.13	163.86	164.59	163.86	0.57	37.13
175.63	162.72	163.11	164.19	165.28	164.19	0.85	38.22
180.88	162.98	163.04	164.53	166.06	164.54	1.18	39.36
185.87	163.21	162.81	164.86	166.92	164.87	1.61	40.45
190.85	163.44	162.34	165.19	167.98	165.17	2.20	41.53
195.99	163.67	161.96	165.81	169.45	165.70	2.93	42.65
200.92	163.89	162.28	166.96	171.28	166.84	3.52	43.72
205.97	164.10	162.55	167.90	172.76	167.74	3.99	44.82
210.83	164.31	162.82	168.65	173.98	168.50	4.36	45.88
215.83	164.51	163.10	169.45	175.20	169.26	4.73	46.97
221.00	164.71	163.38	170.17	176.32	169.97	5.06	48.09
225.91	164.90	163.66	170.81	177.33	170.60	5.33	49.16
230.90	165.10	163.95	171.55	178.36	171.30	5.63	50.26
235.86	165.28	164.22	172.18	179.33	171.93	5.90	51.32
240.79	165.46	164.50	172.78	180.29	172.54	6.17	52.40
245.84	165.64	164.79	173.50	181.37	173.24	6.48	53.50
250.99	165.82	165.09	174.16	182.39	173.89	6.76	54.62
255.90	165.98	165.37	174.74	183.29	174.48	7.01	55.69

260.93	166.15	165.66	175.42	184.33	175.15	7.29	56.78
265.88	166.32	165.95	176.06	185.43	175.83	7.61	57.86
270.71	166.47	166.23	176.65	186.45	176.45	7.90	58.91
275.67	166.63	166.45	177.21	187.50	177.06	8.22	59.99
280.76	166.79	166.64	177.90	188.78	177.78	8.65	61.10
285.95	166.95	166.96	178.56	189.70	178.42	8.88	62.22
289.80	167.06	167.24	179.02	190.30	178.07	9.01	63.06
290.70	167.09	167.31	179.13	190.44	178.97	9.03	63.26
293.87	167.18	170.24	182.31	193.79	182.13	9.20	DIFR
296.00	167.25	177.24	189.38	200.92	189.19	9.25	DIFR
297.00	167.27	180.52	192.70	204.25	192.50	9.27	DIFR
298.00	167.30	183.80	196.01	207.59	195.81	9.29	DIFR
299.00	167.33	187.08	199.32	210.92	199.12	9.32	DIFR
300.00	167.36	190.34	202.63	214.26	202.42	9.34	DIFR
301.00	167.39	193.60	205.94	217.59	205.73	9.37	DIFR

RUN NO. 110

JOHNSON & GIERHART

AIRCRAFT ALTITUDE: 66000 FT ABOVE MSL

FACILITY ANTENNA HEIGHT: 20 FT ABOVE MSL

HORIZONTAL OBSTACLE DISTANCE: SPECIFIED AT 0.6 NM

TERRAIN DELTA h: 50 FT

CLIMATE: DESERT

SURFACE REFLECTION LOBING: CONTRIBUTES TO VARIABILITY

TYPE: ISOTROPIC

TYPE: ISOTROPIC

REFRACTIVITY: EFFECTIVE EARTH RADIUS: 4423 NM

FREQUENCY: 10 GHz

POLARIZATION: CIRCULAR

TERRAIN ELEVATION AT SITE: 0 FT

ORST HT SPECIFIED AT 50 FT ABOVE MSL

MINIMUM MONTHLY MEAN: 200 N-UNITS

SURFACE TYPE: POOR GROUND

TIME AVAILABILITY: FOR INSTANTANEOUS LEVELS EXCEEDED

ESTIMATED QUANTILES OF TRANSMISSION LOSS (DB)

DIST (NM)	FREE SPACE	10%	50%	90%	EXPECTED VALUE	STD DEV	EFF DIST (NM)
1.00	138.56	138.46	138.61	138.77	138.62	0.12	0.22
5.65	139.56	139.48	139.63	139.78	139.63	0.12	1.23
10.69	141.47	141.40	141.55	141.71	141.55	0.12	2.33
13.70	142.66	142.61	142.76	142.91	142.76	0.12	2.98
17.90	144.23	144.20	144.35	144.50	144.35	0.12	3.89
24.44	146.36	146.36	146.51	146.67	146.52	0.12	5.32
	147.78	147.81	147.96	148.12	147.96	0.12	6.43
	148.59	148.64	148.79	148.94	148.79	0.12	7.14
	149.49	149.56	149.71	149.87	149.71	0.12	8.00
11.68	150.50	150.61	150.76	150.91	150.76	0.12	9.07
19.00	151.66	151.80	151.95	152.11	151.95	0.12	10.45
55.93	152.93	153.13	153.27	153.43	153.28	0.12	12.17
60.40	153.58	153.80	153.95	154.10	153.95	0.12	13.14
65.60	154.27	154.52	154.68	154.83	154.68	0.12	14.27
70.80	154.92	155.21	155.36	155.52	155.36	0.12	15.41
75.89	155.51	155.84	155.99	156.14	155.99	0.12	16.51
80.70	156.03	156.40	156.65	156.70	156.56	0.12	17.56
85.78	156.55	156.95	157.11	157.26	157.11	0.12	18.67
90.70	157.03	157.47	157.62	157.78	157.62	0.12	19.74
95.52	157.47	157.95	158.10	158.25	158.10	0.12	20.79
100.83	157.94	158.45	158.61	158.77	158.61	0.12	21.94
105.58	158.33	158.88	159.04	159.20	159.04	0.12	22.98
110.31	158.71	159.30	159.46	159.62	159.46	0.13	24.01
115.43	159.10	159.73	159.89	160.06	159.89	0.13	25.12
120.96	159.50	160.17	160.34	160.52	160.34	0.13	26.32
125.78	159.84	160.55	160.72	160.91	160.73	0.14	27.37
130.86	160.16	160.93	161.11	161.30	161.12	0.15	28.48
135.82	160.50	161.28	161.48	161.69	161.48	0.16	29.55
140.72	160.81	161.63	161.84	162.06	161.84	0.17	30.62
145.93	161.12	161.97	162.21	162.45	162.21	0.19	31.76
150.75	161.40	162.27	162.54	162.81	162.54	0.21	32.80
155.66	161.68	162.57	162.88	163.18	162.87	0.24	33.87
160.80	161.96	162.86	163.22	163.57	163.22	0.28	35.00
165.81	162.23	163.08	163.55	163.90	163.54	0.36	36.08
170.61	162.47	163.13	163.86	164.59	163.86	0.57	37.13
175.63	162.72	163.11	164.19	165.28	164.19	0.85	38.22
180.88	162.98	163.04	164.53	166.06	164.54	1.18	39.36
185.87	163.21	162.81	164.86	166.92	164.87	1.61	40.45
190.85	163.44	162.34	165.19	167.98	165.17	2.20	41.53
195.99	163.67	161.98	165.81	169.45	165.75	2.93	42.65
200.92	163.89	162.26	166.96	171.28	166.84	3.52	43.72
205.97	164.10	162.55	167.90	172.76	167.74	3.99	44.82
210.83	164.31	162.82	168.65	173.98	168.50	4.36	45.88
215.83	164.51	163.10	169.45	175.20	169.26	4.73	46.97
221.00	164.71	163.38	170.17	176.32	169.97	5.06	48.09
225.91	164.90	163.66	170.81	177.30	170.80	5.33	49.16
230.96	165.10	163.95	171.55	178.36	171.30	5.63	50.26
235.86	165.28	164.22	172.18	179.33	171.93	5.90	51.32
240.79	165.46	164.50	172.78	180.29	172.54	6.17	52.40
245.84	165.64	164.79	173.50	181.37	173.24	6.48	53.50
250.99	165.82	165.09	174.16	182.39	173.89	6.76	54.62
254.90	165.95	165.31	174.62	183.11	174.37	6.96	55.47

255.90	165.98	165.37	174.74	183.29	174.48	7.01	55.69
260.93	166.15	165.66	175.42	184.33	175.15	7.29	56.78
265.78	166.31	166.00	176.30	185.55	175.97	7.64	DIFR
269.00	166.38	166.97	177.38	186.70	177.04	7.71	DIFR
269.00	166.42	167.66	178.11	187.46	177.77	7.74	DIFR
270.00	166.45	168.35	178.85	188.23	178.50	7.77	DIFR
271.00	166.48	169.04	179.58	188.89	179.23	7.80	DIFR
272.00	166.51	169.73	180.32	189.76	179.96	7.83	DIFR
273.00	166.54	170.42	181.05	190.52	180.69	7.86	DIFR
274.00	166.58	171.12	181.79	191.29	181.42	7.88	DIFR
275.00	166.61	171.82	182.52	192.05	182.16	7.91	DIFR
276.00	166.64	172.51	183.26	192.81	182.89	7.94	DIFR
277.00	166.67	173.18	184.00	193.58	183.61	7.97	DIFR
278.00	166.70	173.85	184.73	194.34	184.34	8.01	DIFR
279.00	166.73	174.53	185.47	195.10	185.06	8.04	DIFR
280.00	166.76	175.21	186.21	195.86	185.79	8.07	DIFR
281.00	166.79	175.89	186.95	196.63	186.52	8.11	DIFR
282.00	166.83	176.58	187.69	197.39	187.25	8.14	DIFR
283.00	166.86	177.26	188.43	198.15	187.98	8.17	DIFR
284.00	166.89	177.95	189.17	198.91	188.71	8.19	DIFR
285.00	166.92	178.65	189.91	199.67	189.44	8.22	DIFR
286.00	166.95	179.34	190.65	200.45	190.18	8.26	DIFR
287.00	166.98	180.03	191.39	201.23	190.92	8.29	DIFR
288.00	167.01	180.73	192.13	202.01	191.55	8.32	DIFR